

<b>FFID:</b>	MD321382135500	<b>Media Affected:</b>	Surface Water, Sediment, Soil, Groundwater
<b>Size:</b>	72,516 acres	<b>Funding to Date:</b>	\$ 572.5 million
<b>Mission:</b>	Develop and test equipment and provide troop training	<b>Est. CTC (Comp Year):</b>	\$ 275.3 million (FY 2040)
<b>HRS Score:</b>	31.45 (Michaelsville Landfill); placed on NPL in October 1989 53.57 (Edgewood Area); placed on NPL in February 1990	<b>IRP Sites (Final RIP/RC):</b>	253 (FY2012)
<b>IAG Status:</b>	IAG signed in March 1990	<b>MMRP Sites (Final RIP/RC):</b>	18 (FY2018)
<b>Contaminants:</b>	VOCs, SVOCs, metals, PCBs, explosives, petroleum products, pesticides, radiation, CWM, UXO, potential biological warfare materiel, propellants	<b>Five-Year Review Status:</b>	Completed and underway



Edgewood and Aberdeen, Maryland

**Progress To Date**

Studies have identified many areas of contamination at Aberdeen Proving Ground (APG), including chemical munitions and manufacturing waste sites. RCRA facility assessments identified 319 solid waste management units, which were combined into 13 study areas. Remedial investigations (RIs) identified high levels of organic contaminants in most study areas. Completed removal actions include removal of soil contaminated with metals, polychlorinated biphenyls (PCBs), petroleum hydrocarbons, trichloroethylene (TCE), and DDT; removal of underground storage tanks; removal of unexploded ordnance (UXO); closure of Nike missile silos, an adamsite vault, and pilot plant sumps; and cleanup of open dump sites. EPA placed two areas of Aberdeen on the NPL: one in October 1989, and one in February 1990. EPA and the Army signed an interagency agreement (IAG) in 1990. During FY95, the installation converted its technical review committee to a Restoration Advisory Board. The Army completed 5-year reviews in FY99 and FY04. In 2005, the BRAC Commission recommended APG for realignment.

The Army has signed 25 Records of Decision (RODs) to date. In FY03, the Army completed an inventory of all Military Munitions Response Program (MMRP) sites. The cleanup progress at APG for FY03 through FY06 is detailed below.

In FY03, the installation continued removal actions at New O-Field. Direct push technology was used to delineate the location of dense non-aqueous phase liquid (DNAPL) at J-Field. The ecological risk assessment (ERA) for the west branch of Canal Creek (CC) began. The installation completed the chemical warfare materiel (CWM) Lauderick Creek removal action and delineated a perchlorate groundwater plume located in the Western Boundary Study Area (WBSA). The installation completed the Edgewood Area and the Aberdeen Area 5-year reviews. The Army conducted an inventory of closed, transferred, and transferring ranges and sites with UXO, discarded military munitions, or munitions constituents and identified numerous MMRP sites.

In FY04, EPA approved the 5-year reviews for the Edgewood and Aberdeen Areas. The installation began DNAPL removal at J-Field and continued operations of the CC, Old O-Field, and WBSA Operable Unit (OU) 1 groundwater treatment facilities.

The installation completed five draft feasibility studies (FSs) for other Aberdeen Areas (OAA), one for the Westwood Area, and one for Cluster 13 groundwater in the Lauderick Creek Area. The installation conducted enhanced long-term monitoring at Watson Creek and revised the Michaelsville Landfill and WBSA monitoring plans. The Army closed out the Lauderick Creek CWM site. The Army completed its range inventory report/preliminary assessment for MMRP.

In FY05, the installation awarded performance-based contracts (PBCs) for Bush River Study Areas OUs 2 and 3, Edgewood Area groundwater, and the Westwood Study Area; and completed a ROD for Cluster 3 Bush River lead-contaminated soil. Additionally, the Army completed draft FSs for Bush River groundwater and land disposal units and draft RIs for Other Edgewood Areas. The installation completed the final Rad Risk Assessment, RI/FS, proposed plan (PP), and draft ROD for Westwood Study Area. The Army completed a draft ERA for Aberdeen Area, a human health risk assessment (HHRA) for OAA and Western Boundary, and a final Phase II RI for OAA.

In FY06, the Army completed four RODs. The installation finalized No Further Action decision documents (DDs) for 31 sites in the OAA and a PP for the known distance and pistol ranges in the OAA. APG completed construction of Carroll Island and Grace Quarters shoreline stabilization. The Army completed a removal action at the Hog Point Area A. Additionally, the installation completed the final remedial action (RA) report for Carroll Island OU A Disposal Pits. APG issued the final FS for Lauderick Creek Area Cluster 9 Groundwater. The installation completed waste and contaminated soil removal at five RA sites in the Westwood Study Area. The Army awarded a PBC for the former G Street Salvage Yard, an HHRA for WBSA OU 2, and a remedial design for five sediment sites in OAA. APG completed a historical record review and initiated installationwide site inspections (SIs) at MMRP sites.

**FY07 IRP Progress**

The Army and EPA signed RODs for the J-Field Former White Phosphorous Pit and the Canal Creek G-Street Former Salvage Yard. The installation completed three RODs this year; one for the Edgewood Groundwater Cluster 9 and 19; one for the Known Distance Range, Pistol Range, and 23 Other Aberdeen Area Sites; and one for the Westwood Study Area Remaining

Sites. A PP was also completed for Edgewood Groundwater Cluster 9 and 19. Aberdeen Proving Ground completed remedy in place (RIP) at six groundwater sites in the OAA Study Area and RA for five sediment sites in the OAA Study Area. RA completion reports were completed for the Lauderick Creek Cluster 5 Concrete Slab Test Site and the Carroll Island / Graces Quarters OU B. The installation also completed the draft remedial design for Hog Point in the WSA (part of the Remaining Sites ROD) and the draft FS for New O-Field. In lieu of completing the RI/FS and PP for the Canal Creek and Kings Creek sediments, the Army awarded a PBC for the Canal Creek Study Area which encompasses these units.

The RA at the Known Distance Range and the Pistol Range has been delayed due to the decommissioning of the Army Pulse Radiation Facility (APRF). Both ranges are located within the APRF area and removal cannot commence until the final decommissioning of the APRF is approved. The RI/FS for the Bush River groundwater and land disposal units was not completed due to regulatory issues. Regulatory issues also delayed the ROD for the Old Dump on Woodrest Creek, the Old Dump at Swan Creek, and the Shell Washout Wastewater Ditch at Building 700B.

**FY07 MMRP Progress**

The installation issued the final SI Report and the final work plan for expanded SI for the 5400 Block.

**Plan of Action**

Plan of action items for Aberdeen Proving Ground are grouped below according to program category.

**IRP**

- Complete two installation RODs in FY08.
- Initiate RA at the Known Distance Range and the Pistol Range in FY08.
- Complete the RI/FS for the Bush River land disposal units in FY08.

**MMRP**

- Complete the expanded SI for the 5400 Block in FY08.

<b>FFID:</b>	AK017002432300	<b>Funding to Date:</b>	\$ 256.2 million
<b>Size:</b>	76,800 acres	<b>Est. CTC (Comp Year):</b>	\$ 103.9 million (FY 2021)
<b>Mission:</b>	Provided services and materials to support aviation activities and operating forces of the Navy	<b>IRP Sites (Final RIP/RC):</b>	96 (FY2012)
<b>HRS Score:</b>	51.37; placed on NPL in May 1994	<b>MMRP Sites (Final RIP/RC):</b>	1 (FY2014)
<b>IAG Status:</b>	FFA signed in November 1993	<b>Five-Year Review Status:</b>	Completed and planned
<b>Contaminants:</b>	Heavy metals, PCBs, VOCs, petroleum products, SVOCs, explosives, UXO, propellants		
<b>Media Affected:</b>	Groundwater, Surface Water, Sediment, Soil		



Adak, Alaska

**Progress To Date**

Beginning in the early 1940s, Adak Naval Air Facility (NAF) served as a key operations and supply location for U.S. military forces. EPA placed the installation on the NPL in May 1994. In September 1995, the BRAC Commission recommended closure of Adak NAF. Operational Naval forces departed the island on April 1, 1997, and engineering Field Activity Northwest assumed command functions. The installation closed in September 1997. A study identified 32 sites at the installation, including landfills, unexploded ordnance (UXO) areas, and polychlorinated biphenyl (PCB) spill sites, which have contaminated groundwater, soil, surface water, and sediments. Twenty sites were recommended for further investigation. In addition, a RCRA facility assessment identified 76 solid waste management units (SWMUs), 73 of which are managed as CERCLA sites under the federal facility agreement (FFA), which the installation signed in November 1993. The installation completed a community relations plan in FY90 and revised the plan in FY95, FY99, and FY03. In FY92, Adak NAF formed a technical review committee, which was converted to a Restoration Advisory Board in FY96. In FY01 and FY07, the installation completed 5-year reviews.

The installation has completed interim Records of Decision (RODs) for Operable Units (OUs) A and B1, and two No Further Action RODs for SWMUs 4, and 27, and several sites originally included in OU B. In addition, the installation has completed a finding of suitability to transfer (FOST) and transferred approximately 47,000 acres for private reuse in FY04. The installation completed the environmental cleanup on an additional 24,300 acres that was transferred to the Department of the Interior (DOI) in FY04. In FY02, the Navy conducted an inventory of Military Munitions Response Program (MMRP) sites. The cleanup progress at Adak NAF for FY03 through FY06 is detailed below.

In FY03, the installation completed the draft remedial investigation and feasibility study (RI/FS) report for OU B2 and an amendment to the OU A ROD to accommodate the framework of the state regulations. The Navy began the NPL delisting process for OU A for all Alaska regulations. Adak NAF completed the draft evaluations for 6 of the 14 media other than groundwater. The installation finalized a FOST that documents the completion of all MMRP actions for real estate planned to

be transferred to private reuse (Parcels 1A and 1B). The Navy inspected the institutional controls and enhanced access restrictions for areas that are off limits due to potential ordnance contamination. Munitions and explosives of concern (MEC) scrap that was generated from previous investigation and RAs was documented as free of explosives and transported off the island for recycling.

In FY04, the installation transferred approximately 47,000 acres of property for private reuse. In addition, it relinquished approximately 24,300 previously withdrawn acres back to DOI. The Navy has retained about 5,600 acres to complete UXO clearance. Fieldwork continued at Parcel 4 to cleanup OU B1 sites that are within the boundary of Parcel 4. Recovery resumed at 3 of the 14 interim free-product remedy petroleum sites. The Navy, EPA, and the Alaska Department of Environmental Conservation continued to negotiate cleanup requirements for OU B2 sites as part of the process of finalizing the OU B2 ROD. Remediation of OU B1 sites within Parcel 4 boundary continued.

In FY05, Adak NAF completed closure documentation for 19 petroleum release sites. The installation completed post-closure care restoration work (vegetative cap maintenance) at two landfills. The Navy initiated the second 5-year review. A decision document (DD) was executed memorializing remedies for 10 of the 14 free-product petroleum sites previously without a final remedy from the OU A ROD. The installation completed FSs for the four remaining sites. The Navy completed proposed plans (PPs) and began DDs for three of the remaining sites. The installation completed the focused FS, PP, and DD for the remaining petroleum sites.

In FY06, Adak NAF continued long-term management (LTM) at 29 CERCLA and petroleum release sites under the OU A ROD. The installation completed DDs and remedial actions (RAs) for three petroleum release sites and characterization was completed at another site. A partial non-time critical removal action was completed at the MEC Rifle-Grenade-Range (RG 01).

**FY07 IRP Progress**

Adak NAF continued LTM at 28 CERCLA and petroleum release sites under the OU A ROD. The Navy finalized the

partial RA completion report for 55 CERCLA sites. The installation completed a conditional site closure at a petroleum release site. Adak NAF completed the second 5-year review. The Navy continued free product removal at three petroleum release sites. The cost of completing environmental restoration has changed significantly due to changes in estimating criteria.

Regulatory issues delayed confirmatory soil sampling at 16 no further response action planned sites. Regulatory issues also delayed the PP and DD for the remaining petroleum release site.

**FY07 MMRP Progress**

Adak NAF finalized the partial RA completion report for 155 MMRP sites. The Navy resolved the OU B1 ROD disputes.

Regulatory issues delayed MEC clearance at Lake Jean (LJ 01) and RG 01. Technical issues delayed the OU B2 FS and PP. The OU B1 FS and PP are no longer required.

**Plan of Action**

Plan of action items for Adak Naval Air Facility are grouped below according to program category.

**IRP**

- Continue LTM and institutional control inspections at 28 CERCLA and petroleum release sites in FY08.
- Continue partial delisting process for 55 CERCLA sites in FY08.
- Continue free-product recovery at three petroleum sites in FY08.
- Continue work on FS at remaining petroleum release site in FY08.

**MMRP**

- Resume OU B1 ROD RA in FY08.
- Complete LJ 01 and RG 01 NTCR in FY08.
- Complete fieldwork associated with the OU B2 supplemental RI/FS in FY08.
- Continue partial delisting process for 155 MMRP sites in FY08.

<b>FFID:</b>	GU917002755700	<b>Funding to Date:</b>	\$ 63.5 million
<b>Size:</b>	1,809 acres	<b>Est. CTC (Comp Year):</b>	\$ 5.6 million (FY 2019)
<b>Mission:</b>	Provided services and material support for transition of aircraft and tenant commands	<b>IRP Sites (Final RIP/RC):</b>	39 (FY2009)
<b>HRS Score:</b>	N/A	<b>MMRP Sites (Final RIP/RC):</b>	None
<b>IAG Status:</b>	None	<b>Five-Year Review Status:</b>	Planned
<b>Contaminants:</b>	Asbestos, paints, solvents, liquids and sludges, heavy metals, VOCs, SVOCs, explosives, propellants		
<b>Media Affected:</b>	Groundwater, Surface Water, Sediment, Soil		



Agana, Guam

**Progress To Date**

In July 1993, the BRAC Commission recommended closure of Agana Naval Air Station (NAS). The installation was closed on March 31, 1995. A community relations plan was published in FY92, and three information repositories were established. A BRAC cleanup team (BCT) and a Restoration Advisory Board (RAB) were established in FY93.

To date, the installation has identified Installation Restoration Program (IRP) sites. Findings of suitability to lease were completed for three parcels, along with an interim lease and a joint use agreement with the Guam International Airport Authority (GIAA). In addition, 5 parcels of the NAS, totaling 1,179 acres, have been transferred to the Government of Guam (GovGuam) and GIAA. In FY02, the installation conducted an inventory of Military Munitions Response Program (MMRP) sites. The cleanup progress at Agana NAS for FY03 through FY06 is detailed below.

In FY03, Agana NAS completed collecting and analyzing fish and sediment samples for polychlorinated biphenyls (PCBs) from a private residence fish pond located near the Agana Power Plant as requested at a RAB meeting. Regulators requested additional fish samples in the Agana Swamp to determine if PCB levels in fish have decreased. The installation negotiated with the BCT to install two additional monitoring wells at Site 37. One RAB meeting and three BCT meetings were held.

In FY04, the installation completed storm damage repairs at Site 1. Agana NAS conducted a dye trace test to confirm effectiveness of long-term monitoring wells at Site 1, which was inconclusive. Regulators re-evaluated the relative risk evaluation for 12 Operable Unit (OU) 2 sites requiring restricted reuse. Nine sites were revised from industrial to unrestricted land use. Historical risk data for fish in Agana Swamp was re-evaluated to support an additional round of required fish sampling to determine if PCB levels have decreased at Site 35. The installation completed planning documents for addition of two monitoring wells at Site 37. At the former Agana NAS Navy Exchange Service Station, Buildings 15-46a, the Guam Economic Development Authority cleaned up a petroleum substance rising from the ground. The parcel was turned over in an early transfer agreement to GovGuam, but the

contamination was suspected to be from the former Navy service station operation of a 100-gallon waste oil underground storage tank, oil water separator, and associated piping not reported in the Environmental Baseline Survey (EBS). During investigative site visits for development of sampling plans, regulators determined that the source was the sewer system connected to the service station drains, oil water separator drum and piping. The draft site investigation (SI) work plans were completed under site basewide EBS. One RAB and two BCT meetings were held.

In FY05, Agana NAS completed the dye trace study for Site 1 and began an evaluation with regulators to determine landfill monitoring network design. The installation completed proposed plans (PPs) and draft decision documents (DDs) for Site 1, Site 38, and 28 OU 2 sites. Site 37 monitoring well installation and two rounds of sampling were completed. The installation completed the SI fieldwork sampling and analysis to determine further response actions required at Building 15-46A. Three public meetings and two BCT meetings were held. The BCT performed a review of the PP and both EPA and Guam EPA attended Navy public meetings providing cooperative regulator support.

In FY06, Agana NAS completed monitoring of the well network installation at Site 1. The Navy completed PCB remedial actions at Agana Power Plant Site 37 and included these actions in the remedial investigation report. The installation achieved resolution for fish monitoring at the Agana Swamp. The installation completed a draft of the Building 15-46A SI report and determination of further action requirement. The installation held one RAB and one BCT meeting.

**FY07 IRP Progress**

Agana NAS initiated tensiometer monitoring and completed maintenance and inspection activities at Site 1. The Navy completed one round of fish tissue sampling at the Agana Swamp in association with the Agana Power Plant, a focused feasibility study, the RI report, and a PP to present land use controls (LUCs) as the final remedy at Site 35. The installation completed the final SI report and began the removal of the sewer pipeline and oily sludge at Site 39.

Technical issues delayed the DDs and LUC work plans for Site 1, Site 38, and OU 2 (28 sites). The installation began tensiometer monitoring and completed the draft long-term monitoring plan for Site 1; however, regulatory issues delayed completion of the final long-term monitoring plan.

Agana NAS held one public meeting (for Site 35), three RAB and two BCT meetings.

**FY07 MMRP Progress**

The Navy has identified no MMRP sites at this installation.

**Plan of Action**

Plan of action items for Agana Naval Air Station are grouped below according to program category.

**IRP**

- Finalize DDs and LUC work plans for Sites 1 and 38, and OU 2 (28 sites) in FY08.
- Finalize post-removal action maintenance and monitoring plan at Site 1 in FY08.
- Complete pipeline removal at Site 39 in FY08.

**MMRP**

There are no MMRP actions scheduled for FY08 or FY09.

<b>FFID:</b>	TX657172460500	<b>Funding to Date:</b>	\$ 67.3 million
<b>Size:</b>	706 acres	<b>Est. CTC (Comp Year):</b>	\$ 21.1 million (FY 2018)
<b>Mission:</b>	Manufacture aircraft (F-16, partial F-22, and the F-35 Joint Strike Fighter) and associated equipment; testing electronics	<b>IRP Sites (Final RIP/RC):</b>	30 (FY2006)
<b>HRS Score:</b>	39.92; placed on NPL in August 1990	<b>MMRP Sites (Final RIP/RC):</b>	None
<b>IAG Status:</b>	FFA signed in August 1990	<b>Five-Year Review Status:</b>	Completed and planned
<b>Contaminants:</b>	Waste oils and fuels, heavy metals, VOCs, cyanide, DNAPL, TCE, PCBs, paint residues, spent process chemicals, solvents		
<b>Media Affected:</b>	Groundwater, Surface Water, Sediment, Soil		



Fort Worth, Texas

## Progress To Date

Air Force Plant No. 4 (AFP 4) has been a primary manufacturing plant for military aircraft and related equipment since 1942. The installation is adjacent to and shares the airfield with Fort Worth Joint Reserve Base Naval Air Station (former Carswell Air Force Base [AFB]). In August 1990, EPA placed the installation on the NPL. The Air Force also signed a federal facility agreement in August 1990. Studies have confirmed groundwater, surface water, and soil contamination. Specifically, trichloroethylene (TCE) was found in groundwater underneath six spill sites and four landfills (LFs). In FY95, AFP 4 converted its technical review committee to a Restoration Advisory Board (RAB). The installation completed the first 5-year review in FY04.

To date, Records of Decision (RODs) have been completed for all sites. The cleanup progress at AFP 4 for FY03 through FY06 is detailed below.

In FY03, the installation submitted the first 5-year review for regulator review. Characterization of the Northeast Parking Lot plume was completed and no source areas were found. The Air Force Center for Environmental Excellence (AFCEE) conducted vegetable oil injection on the north lobe of the plume.

In FY04, EPA provided written concurrence on the first 5-year review. The installation turned off the soil vapor extraction system for Building 181 in order to measure rebound concentrations of TCE in the area treated the previous year by electrical resistance heating. The installation conducted two long-term monitoring rounds, including monitoring wells on Carswell AFB, and determined that all treatment systems were working properly; however, a water line break caused damage to some equipment, and as a result, the East Parking Lot groundwater system was off-line for two months. AFP 4 continued to partner with AFCEE and the Air Force Real Property Agency (AFRPA) on plume management and support for the transfer of the Carswell Golf Course parcel.

In FY05, the installation continued operation and maintenance (O&M) and long-term monitoring of treatment systems. The Air Force completed Phase III fieldwork on dense nonaqueous phase liquid (DNAPL)/polychlorinated biphenyls (PCBs) near the creek, LFs, and Lake Worth. The Air Force submitted the

final focused feasibility study to regulators. The Air Force also continued partnering with the North Central Texas Council of Governments for Lake Worth restoration. The installation hosted a site tour with the Texas Commission on Environmental Quality (TCEQ) total maximum daily load (TMDL) officials, showcasing the aggressive, proactive work the Air Force has led concerning Lake Worth sediment and sewer sampling at AFP 4. The Air Force updated its Military Munitions Response Program (MMRP) inventory. No MMRP sites were identified at this installation during the inventory development.

In FY06, AFP 4 continued O&M and long-term monitoring of treatment systems. EPA inspected the treatment systems in January and approved the final interim action completion report in June. The installation worked to decrease treatment system costs and held discussions with a contractor concerning optional discharge of treated water. AFP 4 and TCEQ held a public meeting to discuss the TMDL Implementation Plan for Lake Worth. The installation completed the preliminary closeout report necessary for transfer of the Carswell Golf Course parcel by AFRPA.

## FY07 IRP Progress

AFP 4 implemented the TMDL implementation plan, which included additional street sweepings to remove residual low-level PCBs. The installation also continued outfall sampling and testing of fish in Lake Worth for PCBs. The Air Force completed and signed the explanation of significant differences for the East Parking Lot groundwater plume ROD and received EPA Region VI concurrence. A preliminary close out report was issued by the EPA Region VI. The base received a Certificate of Completion for Air Force Superfund Remedial Action. AFP 4 received funding for hot spot treatment for remedial action implementation at Building 181, LF 3, and Chrome Pit 3 area (for TCE). Treatment system O&M continued, although drought conditions reduced flow. RAB meetings were held semi annually. The cost of completing environmental restoration has changed significantly due to changes in estimating criteria.

## FY07 MMRP Progress

The Air Force initiated a preliminary assessment (PA) at this installation.

## Plan of Action

Plan of action items for Air Force Plant No. 4 are grouped below according to program category.

### IRP

- Complete and submit the second 5-year review in FY08-FY09.
- Continue long term-monitoring in FY08-FY09.
- Continue treatment system O&M in FY08-FY09.
- Implement and inspect land use controls on former Carswell AFB in FY08-FY09.

### MMRP

- Complete PA in FY08.

<b>FFID:</b>	AZ957172462900	<b>Funding to Date:</b>	\$ 80.1 million
<b>Size:</b>	2,174 acres	<b>Est. CTC (Comp Year):</b>	\$ 44.7 million (FY 2030)
<b>Mission:</b>	Research, design, and manufacture missiles	<b>IRP Sites (Final RIP/RC):</b>	13 (FY2009)
<b>HRS Score:</b>	57.86; placed on NPL in September 1983	<b>MMRP Sites (Final RIP/RC):</b>	None
<b>IAG Status:</b>	FFA negotiations underway	<b>Five-Year Review Status:</b>	Completed
<b>Contaminants:</b>	Paint sludges, paint thinners, heavy metals, solvents, machine coolants, machine lubricants, VOCs		
<b>Media Affected:</b>	Sediment, Soil, Groundwater		



Tucson, Arizona

## Progress To Date

Air Force Plant No. 44 (AFP 44), located adjacent to Tucson International Airport (IAP), was constructed in 1951 to manufacture Falcon air-to-air missiles. Over the years, industrial facilities were constructed to support several other missile systems. The installation is part of the Tucson International Airport Area (TIAA), which EPA placed on the NPL in September 1983. In addition to AFP 44, the TIAA (covering approximately 10 square miles) includes airport property owned by the City of Tucson, the Tucson IAP Air National Guard Base (ANGB), and adjacent Indian reservation property and several residential areas in the Cities of Tucson and South Tucson. Only restoration activities for this installation and Tucson IAP ANGB are funded through the Environmental Restoration Account. Contaminants identified at AFP 44 sites include solvents, machine coolants and lubricants, paint sludges and thinners, and heavy metals. The installation formed a Restoration Advisory Board, which was later converted to a Unified Community Advisory Board. The installation conducted a 5-year review for six soil sites in FY04.

Records of Decision (RODs) have been signed for three soil vapor extraction (SVE) sites, three soil excavation sites, and one groundwater remediation site. A no further action ROD was signed for four sites. In FY05, the Air Force updated its Military Munitions Response Program (MMRP) inventory. The cleanup progress at AFP 44 for FY03 through FY06 is detailed below.

In FY03, the installation conducted an expanded in situ pilot project at Site 2 using potassium permanganate. EPA Region 9 submitted a limited draft risk assessment for 1,4-dioxane. Operation and maintenance (O&M) of the groundwater reclamation system, SVE systems, and dual-phase extraction (DPE) systems continued. The installation submitted the draft final Site 2 closure report to regulators for review and concurrence. Comments were received from the regulators on the draft final 5-year review.

In FY04, AFP 44 conducted an expanded in situ pilot project at Site 3 and submitted a work plan. The installation also completed the SVE at Sites 3 and 5 and monitored soil gas for 1 year. In addition, the installation completed the 1,4-dioxane risk assessment and determined the necessary future actions. The Air Force submitted the findings to the regulators. AFP 44

continued O&M of the groundwater reclamation system, SVE systems, and DPE systems. The installation continued the Site 2 in situ pilot, resulting in most of the Site 2 wells being below drinking water standards. Regulators approved the Site 2 closure report. Sites 3 and 5 were shut off and soil gas will be monitored to verify that the act of removing contamination in the vadose posed no threat to the groundwater. AFP 44 completed a 5-year review for six soil sites. The installation updated and finalized the AFP 44 community relations plan.

In FY05, AFP 44 completed the Site 3 permanganate injection and future monitoring results will determine the effectiveness of the permanganate injections. The installation conducted soil gas monitoring for Sites 3 and 5. The results indicated most of the wells are non-detect. AFP 44 continued O&M of groundwater reclamation system and DPE was eliminated because the source areas have been addressed. The Air Force updated its MMRP inventory. No MMRP sites were identified at this installation during the inventory development.

In FY06, AFP 44 submitted closure documents for Sites 3 and 5. The Air Force updated the documents based on comments from EPA Region 9 and the Arizona Department of Environmental Quality. Additionally, the Air Force reinjected more permanganate at Sites 2 and 3 because of the rebound of trichloroethylene (TCE) concentrations in the monitoring wells. The Air Force used soybean oil and lactic acid to clean up the chromium and TCE source areas that migrated from Solid Waste Management Unit D, the former chromium plating area in Building 801. The installation continued O&M of the groundwater reclamation system.

## FY07 IRP Progress

AFP 44 revised closure reports for Sites 3 and 5 based on the new Arizona cleanup level. The installation reduced the mass of the source areas for Sites 2 and 3 and completed the soil cleanup under Building 801. The Air Force continued O&M of the groundwater reclamation system. The cost of completing environmental restoration has changed significantly due to regulatory issues.

## FY07 MMRP Progress

The Air Force initiated a preliminary assessment (PA) at this installation.

## Plan of Action

Plan of action items for Air Force Plant No. 44 are grouped below according to program category.

### IRP

- Continue reducing mass of source areas for Sites 2 and 3 contaminant sources through permanganate injection in FY08-FY09.
- Reduce the size of the 1,4 dioxane plume in FY08-FY09.
- Select the final remedy for the Shallow Groundwater Zone in FY08-FY09.
- Replace the air strippers with the advanced oxidation process in FY08-FY09.

### MMRP

- Complete PA in FY08.

<b>FFID:</b>	CO857172553700	<b>Funding to Date:</b>	\$ 38.4 million
<b>Size:</b>	464 acres	<b>Est. CTC (Comp Year):</b>	\$ 25.1 million (FY 2020)
<b>Mission:</b>	Research, develop, and assemble missiles and missile components; test engines	<b>IRP Sites (Final RIP/RC):</b>	61 (FY2011)
<b>HRS Score:</b>	42.93; placed on NPL in November 1989	<b>MMRP Sites (Final RIP/RC):</b>	5 (FY2005)
<b>IAG Status:</b>	None	<b>Five-Year Review Status:</b>	Planned
<b>Contaminants:</b>	Hydrazine, PCBs, PAHs, chlorinated organic solvents, VOCs, SVOCs, metals, n-nitrosodimethylamine		
<b>Media Affected:</b>	Groundwater, Surface Water, Sediment, Soil		



Waterton, Colorado

## Progress To Date

Former Air Force Plant (AFP) PJKS supported the military by researching, developing, and assembling missiles, missile components, and engines. EPA placed the installation on the NPL in November 1989. In FY01, AFP PJKS was sold to Lockheed Martin Corporation, the operator of the facility. Past operations have contaminated groundwater beneath the installation with trichloroethylene (TCE), TCE degradation products (dichloroethene and vinyl chloride), and n-nitrosodimethylamine (NDMA), and soil with polychlorinated biphenyls (PCBs) and polynuclear aromatic hydrocarbons (PAHs). The installation formed a Restoration Advisory Board (RAB) in FY96 and signed a RAB charter in FY97.

Studies have identified Installation Restoration Program (IRP) sites, which were grouped into six operable units (OUs). Twelve of 14 underground storage tanks have been removed from the installation and closures were completed at 2 sites. The cleanup progress at AFP PJKS from FY03 through FY06 is detailed below.

In FY03, regulators granted no further action (NFA) determinations for 12 sites. By accepting the OU 5 addendum and granting approval for the OU 4 additional investigation, regulators indicated that the installation can proceed into the corrective measures stage for both groundwater OUs. The installation received approval for a bedrock groundwater pilot study. The installation conducted two investigations, one at OU 1 and one at OU 3, and two rounds of groundwater monitoring. RAB meetings were held quarterly.

In FY04, the installation conducted bedrock pilot studies in three locations to evaluate bioremediation techniques to treat TCE, and the treatment was successful in one location. The installation also prepared a work plan and negotiated an approach for an alluvial pilot study designed to evaluate bioremediation technologies to treat TCE and NDMA in an alluvial aquifer. The Air Force submitted the work plan for regulatory approval. The installation completed investigations at the remaining soil areas as part of the combined soils additional investigation. The installation also conducted two rounds of groundwater monitoring and submitted the 2003 Annual Groundwater Monitoring Report to regulators.

In FY05, the installation conducted two rounds of groundwater monitoring and submitted the 2004 Annual Groundwater Monitoring Report to regulators. The installation completed the alluvial groundwater bench scale study. AFP PJKS prepared an engineering evaluation/cost analysis to convert the successful bedrock pilot study into an interim corrective measure (ICM) and received regulatory approval. The combined soils additional investigation report was approved by regulators. As part of this report, the installation received regulatory approval of NFA requests for 13 sites, as did the combined soils ICM study and implementation work plan. The installation prepared a work plan detailing additional activities to be conducted as part of the bedrock pilot study. The D-1 Landfill Area interim measure work plan was approved by regulators. The Air Force conducted a study to evaluate NDMA distribution using an experimental analytical method with a lower detection limit than the currently accepted method. The Air Force updated its Military Munitions Response Program (MMRP) inventory. No MMRP sites were identified at this installation during the inventory development. Quarterly RAB meetings were held.

In FY06, AFP PJKS conducted two rounds of groundwater monitoring and submitted the 2005 Annual Groundwater Monitoring Report to regulators and received approval. The installation completed the combined soils ICM study report following a public comment period. AFP PJKS completed implementation of the combined soils ICM, which resulted in the closure of seven sites. The installation conducted additional pilot study remediation activities to reduce TCE concentrations. Additionally, the Air Force implemented two ICMs to address groundwater source areas. The installation continued to hold RAB meetings quarterly.

## FY07 IRP Progress

AFP PJKS conducted two rounds of groundwater monitoring and submitted the 2006 Annual Groundwater Monitoring Report, which included an updated Conceptual Site Model. The installation collected quarterly performance monitoring data on the two groundwater ICMs, which continue to perform as designed. ICMs were installed in two of the remaining source areas. In addition, ICMs, instead of treatability tests, were selected for the remaining source areas based on the success of the initial two ICMs.

Technical issues delayed submittal of the groundwater feasibility study (FS) work plan.

## FY07 MMRP Progress

The Air Force has identified no MMRP sites at this installation.

## Plan of Action

Plan of action items for Air Force Plant PJKS are grouped below according to program category.

### IRP

- Complete implementation of ICMs in remaining groundwater source areas and collect ICM performance data in FY08.
- Submit and complete groundwater FS work plan in FY08.
- Continue sitewide groundwater monitoring in FY08-FY09.

### MMRP

There are no MMRP actions scheduled for FY08 or FY09.

<b>FFID:</b>	AL421382000800	<b>Funding to Date:</b>	\$ 62.7 million
<b>Size:</b>	2,235 acres	<b>Est. CTC (Comp Year):</b>	\$ 6.0 million (FY 2040)
<b>Mission:</b>	Manufactured explosives	<b>IRP Sites (Final RIP/RC):</b>	42 (FY2009)
<b>HRS Score:</b>	36.83; placed on NPL in July 1987	<b>MMRP Sites (Final RIP/RC):</b>	None
<b>IAG Status:</b>	FFA signed in December 1989	<b>Five-Year Review Status:</b>	Planned
<b>Contaminants:</b>	Nitroaromatic compounds, heavy metals, munitions-related wastes, VOCs, SVOCs, explosives, propellants		
<b>Media Affected:</b>	Surface Water, Groundwater, Sediment, Soil		



Childersburg, Alabama

## Progress To Date

Studies conducted at Alabama Army Ammunition Plant (AAP) since FY83 identified various sites as potential sources of contaminants. Prominent site types include: a former ammunition production and burning ground for explosives; industrial wastewater conveyance systems, ditches, and a red water storage basin; landfills; underground storage tanks; polychlorinated biphenyl (PCB)-containing transformers; and a former coke oven. The installation has six operable units in Area A and Area B. The groundwater, surface water, sediment, and soil are contaminated with nitroaromatic compounds, heavy metals, and explosives waste. EPA placed the installation on the NPL in July 1987, and the installation signed a federal facility agreement (FFA) in December 1989. In FY94, the Army formed a BRAC cleanup team. During FY95, the Army attempted to establish a Restoration Advisory Board (RAB), but received no applications for RAB membership.

The Army has signed three Records of Decision (RODs) to date. The installation closed 35 groundwater monitoring wells in FY99. The Army completed the early transfer of property to the City of Childersburg in FY03. In FY03, the Army also completed an inventory of all Military Munitions Response Program (MMRP) sites. The cleanup progress at Alabama AAP for FY03 through FY06 is detailed below.

In FY03, the installation completed the early transfer of property to the City of Childersburg. The installation completed a potable well survey and groundwater remedial investigation (RI) fieldwork. The Army completed the closed, transferred, and transferring ranges and sites inventory. The technical review committee discussed the soil and groundwater past actions, as well as future documented actions.

In FY04, the installation submitted the draft groundwater RI for regulatory review, along with further site sampling of the South Georgia Road site. The installation completed the soil feasibility study (FS).

In FY05, the installation completed the draft soils proposed plan (PP).

In FY06, Alabama AAP submitted a soils PP for regulatory review and completed a work plan addendum for additional groundwater sampling.

## FY07 IRP Progress

The Army received final approval letters on the Area B Soils RI and FS from EPA. The Army distributed a revised draft PP for the Area B Soils in March. Due to Alabama Department of Environmental Management (ADEM) concerns relating to the possibility of semi-volatile organic compounds/volatile organic compounds (SVOC/VOC) contaminants, the Army provided additional information on the RI sampling data. ADEM approved the FS and the draft PP for the Area B Soils. The Army conducted groundwater sampling at Alabama AAP and in nearby off-site potable wells. The Army has also prepared a draft 5-year review for EPA approval. The cost of completing environmental restoration has changed significantly due to technical issues.

Administrative issues delayed the Area B Soils ROD and the groundwater RI/FS and ROD. Differing ideas on the conceptual site model for groundwater is also causing delays.

The Army conducted meetings to discuss the groundwater progress with the regulators.

## FY07 MMRP Progress

The Army has identified no MMRP sites at this installation.

## Plan of Action

Plan of action items for Alabama Army Ammunition Plant are grouped below according to program category.

### IRP

- Finalize Area B Soils ROD in FY08.
- Complete groundwater RI/FS and ROD in FY09.

### MMRP

There are no MMRP actions scheduled for FY08 or FY09.

<b>FFID:</b>	CA917002323600	<b>Contaminants:</b>	BTEX, chlorinated solvents, radium, heavy metals, herbicides, pesticides, petroleum hydrocarbons, PAHs, PCBs, VOCs, SVOCs, explosives, propellants
<b>Size:</b>	2,675 acres	<b>Media Affected:</b>	Groundwater, Surface Water, Sediment, Soil
<b>Mission:</b>	Maintained and operated facilities and provided services and material support for naval aviation activities and operating forces	<b>Funding to Date:</b>	\$ 290.9 million
<b>HRS Score:</b>	50.0; placed on NPL in July 1999	<b>Est. CTC (Comp Year):</b>	\$ 173.9 million (FY 2018)
<b>IAG Status:</b>	FFA signed in FY01	<b>IRP Sites (Final RIP/RC):</b>	45 (FY2018)
		<b>MMRP Sites (Final RIP/RC):</b>	None
		<b>Five-Year Review Status:</b>	Planned



Alameda, California

## Progress To Date

In September 1993, the BRAC Commission recommended closure of Alameda Naval Air Station (NAS). Prominent site types are landfills, offshore sediment areas, plating and cleaning shops, pesticide control areas, transformer storage areas, and a former oil refinery. A BRAC cleanup team (BCT) was formed in FY93. The installation formed a technical review committee in FY90 and converted it to a Restoration Advisory Board (RAB) in FY93. A BRAC cleanup plan was completed in FY94. In addition, a community land reuse plan was approved in FY96. The installation closed in 1997. In FY98, the first technical assistance for public participation (TAPP) grant in the United States was issued to the RAB to help with the Operable Unit (OU) 1 remedial investigation (RI) review. EPA placed the installation on the NPL in July 1999, and the installation signed a federal facility agreement (FFA) in FY01. The Navy awarded the installation TAPP grants in FY03 and FY04. The installation also completed the initial community relations plan (CRP), which was revised in FY03 to reflect community interests and concerns.

To date, Alameda NAS has identified Installation Restoration Program (IRP) sites. The installation completed a Record of Decision (ROD) for Marsh Crust in FY00, a No Further Action (NFA) ROD for Site 29 in FY05, and RODs for Sites 15 and 26 in FY06. In FY02, the installation conducted an inventory of Military Munitions Response Program (MMRP) sites. The cleanup progress at Alameda NAS for FY03 through FY06 is detailed below.

In FY03, the installation completed removal actions at Sites 4, 5 (groundwater), 9, 11, 16, and 21, and the RI and feasibility studies (FSs) for Sites 14 and 15. The Navy completed a time-critical removal action (TCRA) for polycyclic aromatic hydrocarbons (PAHs) in the West Housing Area, and a non-TCRA for lead in the soil and for the water and antennae towers. The Navy completed petroleum removal actions at Site CAA 6 and Building 397. It also used six-phase heating to treat the dense non-aqueous phase liquid and dissolve phase chlorinated solvents. The Navy used chemical oxidation to treat dissolved phase chlorinated solvents, and dual vacuum extraction and bio-sparging to treat petroleum contaminants. The CRP for the installation was revised to reflect community interests and concerns. The Navy awarded a TAPP to review

the groundwater RI/FS for OU 5. The Navy also produced a comprehensive newsletter updating all site activities.

In FY04, the installation completed an action memo and TCRA for Site 13 and prepared an action memo for a TCRA memorandum for Site 9 to supplement the previous action memo. The Navy initiated the RI for Site 30, the Miller school and child care facility. The installation began planning a TCRA for containment of PAH contaminated soil at Site 30. The Navy completed RIs for OU 4B (Site 17) and OU 6 (Site 26). The installation completed the RI for OU 4C (Site 29) and determined that the FS was not needed for this NFA site. The RAB held 12 meetings and reviewed numerous environmental documents. The RAB received a TAPP grant for the review of the draft groundwater RI/FS for OU 5. The BCT met once a month, and focused on technical issues related to IRP documents and strategies for reaching closure at the sites.

In FY05, Alameda NAS signed a NFA ROD for Site 29 (Skeet Range). The Navy conducted a removal action at Site 30 to address a potential risk caused by PAH in the soil. The installation initiated a removal action at Site 9 to remove floating hydrocarbon to safely initiate the planned removal action (chemical-oxidation) of chlorinated hydrocarbons in groundwater. Additionally, the Navy completed an innovative technology removal action on a portion of Site 5, which was the largest full scale deployment of true six-phase heating to date. Alameda NAS initiated the first 5-year review report. The Navy quickly removed a subsurface vault and tank containing petroleum hydrocarbons from the Least Tern Area. The installation also completed the RI/FS for OU 1 (Sites 6, 7, 8, and 16). In addition, the installation completed a removal action at Site 16 and one area at Site 5. It also completed FSs for OU 4B (Site 17) and OU 6 (Site 28). The RAB held 12 meetings and reviewed numerous environmental documents, and conducted a tour of the northwestern area. The BCT met once a month to discuss IRP documents and strategies for site closure.

In FY06, Alameda NAS signed RODs for Sites 15 and 26. The installation completed the proposed plan (PP) for OU 1 (Sites 6, 7, 8, and 16). The Navy also completed RIs for Sites 20 and 24. The RAB held 11 meetings, applied for a TAPP grant, reviewed numerous environmental documents, and conducted a RAB tour of two sites with active remediation. The BCT met once a

month and focused on technical issues related to IRP documents and strategies for reaching closure at the sites.

## FY07 IRP Progress

Alameda NAS completed RODs for Sites 14, 17, 25, and 28 and OUs 1 (Sites 6, 7, 8, and 16) and 5. The Navy completed PPs for Sites 1 and 27. Alameda NAS continued the six-phase heating removal action at Site 5 to address chlorinated solvents in groundwater. The installation initiated a TCRA at Sites 1, 2, and 32 to address lead and radiologically-impacted soil. The Navy initiated a pilot test for vapor extraction at OU 5/IR 02 to address benzene and naphthalene in groundwater. The cost of completing environmental restoration has changed significantly due to changes in estimating criteria.

Regulatory issues delayed the FSs for OUs 2A and 2B. Technical issues delayed the Site 30 FS.

## FY07 MMRP Progress

The Navy has identified no MMRP sites at this installation.

## Plan of Action

Plan of action items for Alameda Naval Air Station are grouped below according to program category.

### IRP

- Complete RODs for Sites 1, 27, and 31 in FY08.
- Complete FSs for Sites 2, 24, and 32; and OU 2A in FY08.
- Initiate remedial action at Sites 14, 17, 26, and OU 5/IR 02 groundwater in FY08.
- Complete TCRAs at Sites 5/10 and 17 in FY08.

### MMRP

There are no MMRP actions scheduled for FY08 or FY09.

<b>FFID:</b>	GA417302369400	<b>Media Affected:</b>	Groundwater, Sediment, Soil
<b>Size:</b>	3,579 acres	<b>Funding to Date:</b>	\$ 42.6 million
<b>Mission:</b>	Acquire, supply, and dispose of materials needed to sustain combat readiness of Marine Corps forces worldwide; acquire, maintain, repair, rebuild, distribute, and store supplies and equipment; conduct training	<b>Est. CTC (Comp Year):</b>	\$ 8.5 million (FY 2039)
<b>HRS Score:</b>	44.65; placed on NPL in December 1989	<b>IRP Sites (Final RIP/RC):</b>	32 (FY2008)
<b>IAG Status:</b>	FFA signed in July 1991	<b>MMRP Sites (Final RIP/RC):</b>	None
<b>Contaminants:</b>	VOCs, PCBs, heavy metals, pesticides, PAHs, SVOCs	<b>Five-Year Review Status:</b>	Completed



Albany, Georgia

**Progress To Date**

The Albany Marine Corps Logistics Base (MCLB) is used to acquire, supply, and dispose of materials needed to sustain combat readiness of Marine forces worldwide. The sites at the installation are grouped into six operable units (OUs), including basewide groundwater (OU 6) and a site-screening group. Sites include disposal areas, storage areas, and landfills. Contaminants include trichloroethylene (TCE), polychlorinated biphenyls (PCBs), and heavy metals. EPA placed the installation on the NPL in December 1989, and the installation signed a federal facility agreement (FFA) in July 1991. In 2005, the BRAC Commission recommended Albany MCLB for realignment. The installation formed a technical review committee. In FY92, Albany MCLB completed a community relations plan. In FY01 and FY06, the installation completed 5-year reviews.

A No Further Action Record of Decision (ROD) at OU 2 was signed. Final RODs for four sites at OU 1 and two sites at OUs 3, 4, 5, and 6 have been completed. In addition, the installation has signed an interim ROD at solid waste management unit (SWMU) 3. In FY02, the Navy conducted an inventory of Military Munitions Response Program (MMRP) sites. The cleanup progress at Albany MCLB for FY03 through FY06 is detailed below.

In FY03, Albany completed the zero-valent iron (ZVI) and potassium permanganate pilot studies. The installation planned to repaint the water tower over one of the SWMUs, and included both SWMUs as part of one contract action. Albany MCLB completed the evapotranspiration (ET) cap pilot study and initiated the remedial design (RD) for groundwater.

In FY04, the installation began delineation sampling and investigation of the SWMUs.

In FY05, Albany MCLB implemented the groundwater remedy. The installation completed remediation of the two SWMUs and completed an explanation of significant differences to the OU 6 ROD. Additionally, the installation completed the RD for source areas and awarded the contract for the construction of the cap.

In FY06, Albany MCLB completed injections of permanganate and ZVI into the groundwater and performed two rounds of monitoring to determine the effectiveness of the treatments. The installation completed a 5-year review that determined all remedies remained in place and were protective. The installation started construction of an ET cap.

**FY07 IRP Progress**

Albany MCLB monitored the effectiveness of the groundwater treatments and continued natural attenuation monitoring. The cost of completing environmental restoration has changed significantly due to technical issues.

Technical issues delayed the construction of the ET cap.

**FY07 MMRP Progress**

The Navy conducted no MMRP actions at this installation.

**Plan of Action**

Plan of action items for Albany Marine Corps Logistics Base are grouped below according to program category.

**IRP**

- Complete construction of the ET cap in FY08.
- Perform optimization review of the groundwater monitoring program in FY08.
- Continue natural attenuation monitoring in FY08.

**MMRP**

There are no MMRP actions scheduled for FY08 or FY09.

<b>FFID:</b>	WV317002369100	<b>Funding to Date:</b>	\$ 34.0 million
<b>Size:</b>	1,628 acres	<b>Est. CTC (Comp Year):</b>	\$ 34.1 million (FY 2039)
<b>Mission:</b>	Research, develop, and produce solid propellant rocket motors for DoD and NASA	<b>IRP Sites (Final RIP/RC):</b>	41 (FY2014)
<b>HRS Score:</b>	50.00; placed on NPL in May 1994	<b>MMRP Sites (Final RIP/RC):</b>	None
<b>IAG Status:</b>	FFA signed in January 1998	<b>Five-Year Review Status:</b>	Completed
<b>Contaminants:</b>	VOCs, RDX, HMX, perchlorate, silver, SVOCs, explosives, propellants, metals		
<b>Media Affected:</b>	Groundwater, Surface Water, Sediment, Soil		



Mineral County, West Virginia

**Progress To Date**

The Allegany Ballistics Laboratory was used for research, development, and production of solid propellant rocket motors for DoD and NASA. Contaminants found at the installation included volatile organic chemicals (VOCs), RDX, HMX, perchlorate, and silver. EPA placed the installation on the NPL in May 1994, and the installation signed a federal facility agreement (FFA) in January 1998. The Navy established a technical review committee in FY89 and converted it to a Restoration Advisory Board in FY95. In FY94, the installation established an administrative record and two information repositories. In FY99, the installation issued a draft community relations plan.

Previous studies identified environmental restoration sites at this government-owned, contractor-operated installation. A confirmation study recommended further investigation at eight sites. A later study identified 119 solid waste management units (SWMUs) and 12 areas of concern (AOCs), with 61 recommended for further action. The installation has completed Records of Decision (RODs) for Sites 1, 5, and 10. In addition, a No Further Action (NFA) ROD was signed for Site 7. In FY02, the installation conducted an inventory of Military Munitions Response Program (MMRP) sites. The cleanup progress at Allegany Ballistics Laboratory for FY03 through FY06 is detailed below.

In FY03, the installation developed background levels for inorganic contaminants and completed draft risk assessments for Site 1, and RIs for Sites 5 and 11. The installation also commenced remedial investigations (RIs) for SWMUs 27A, 37E, 37V, and Site 12. The installation continued to make progress on the RI for AOC N, and SWMUs 27A and 37V. The installation issued a draft risk assessment for Sites 1, 2, 3, and 10.

In FY04, Allegany Ballistics Laboratory initiated work to fill in data gaps for Site 1 soils, and the human health risk assessment (HHRA) and ecological risk assessments (ERA) for Site 1. The installation completed the review of the RI/feasibility study (FS) for Site 5. The installation presented the finalized ROD for Site 10 to the Navy and EPA and finalized work plan changes for further investigations at SWMUs 27A and 37V. The installation completed an engineering evaluation and cost

analysis (EE/CA) for removal action at Site 12. The installation completed the RI/FS for Sites 3, 10, and 12, and the RI for AOC N (Site 12).

In FY05, Allegany Ballistic Laboratory completed sampling work for Site 1 soils, and began work on the RI and the associated HHRA and ERA. The RI/FSs were completed for Sites 2 and 5. The installation documented that NFA is needed at Site 3 as the proposed remedial action plan is final. The installation completed a soil removal action for Site 12. In addition, the installation signed the ROD for Site 10.

In FY06, Allegany Ballistics Laboratory completed an optimization study of the pump-and-treat system serving Sites 1 and 5 groundwater. The installation also finalized the RI for Site 1 soils, and sub-divided Site 1 soils into four separate areas. The Navy signed a ROD and constructed a permeable reactive barrier wall to treat groundwater at the Site 5 landfill.

**FY07 IRP Progress**

Allegany Ballistics Laboratory completed the RODs for Site 3 and for the Site 10 soils. The cost of completing environmental restoration has changed significantly due to technical issues.

Technical issues delayed the ROD for Site 2. The EE/CA for Site 1B soils was drafted; however, regulatory issues delayed completion of the non-time-critical removal action (NTCRA).

**FY07 MMRP Progress**

The Navy has identified no MMRP sites at this installation.

**Plan of Action**

Plan of action items for Allegany Ballistics Laboratory are grouped below according to program category.

**IRP**

- Complete ROD for Sites 2 and 4B in FY08.
- Complete RIs for Sites 11 and 12 in FY08-FY09.
- Complete FS for Sites 1 and 11/12 in FY08-FY09.

**MMRP**

There are no MMRP actions scheduled for FY08 or FY09.

<b>FFID:</b>	GU957309951900	<b>Est. CTC (Comp Year):</b>	\$ 47.1 million (FY 2014)
<b>Size:</b>	15,000 acres	<b>IRP Sites (Final RIP/RC):</b>	89 (FY2012)
<b>Mission:</b>	Provide troops, equipment, and facilities in the Pacific	<b>MMRP Sites (Final RIP/RC):</b>	16 (FY2013)
<b>HRS Score:</b>	50.00; placed on NPL in October 1992	<b>Five-Year Review Status:</b>	Completed and planned
<b>IAG Status:</b>	FFA signed in March 1993		
<b>Contaminants:</b>	Metals, asphalt, dioxins, PCBs, VOCs, SVOCs		
<b>Media Affected:</b>	Groundwater and Soil		
<b>Funding to Date:</b>	\$ 108.9 million		



Yigo, Guam

## Progress To Date

The mission of Andersen Air Force Base (AFB) is to provide troops, equipment, and facilities in the Pacific. EPA placed the installation on the NPL in October 1992 and the Air Force signed a federal facility agreement (FFA) in March 1993. In 2005, the BRAC Commission recommended Andersen AFB for realignment. Preliminary assessments (PAs) have identified landfills, waste piles, fire training areas, hazardous waste storage areas, and spill sites. In 1995, the technical review committee was converted to a Restoration Advisory Board (RAB). The base community relations plan was updated in FY98. A 5-year review was completed in FY04.

The sites identified at Andersen AFB were consolidated into 39 sites and grouped into 6 operable units (OUs). To date, Guam EPA and EPA Region 9 have signed Records of Decision (RODs) for the Marianas Bonins (MARBO) OU, the Harmon OU, and the Urunao OU. The cleanup progress at Andersen AFB for FY03 through FY06 is detailed below.

In FY03, the installation continued long-term operations for Sites Landfill (LF) 2 and FTA 2, as well as groundwater monitoring for the MARBO and Main Base OUs. Negotiations with regulators resulted in reducing the required number of wells, frequency of sampling, and number of analytes. The base finalized two engineering evaluation and cost analysis (EE/CA) reports for LFs 8 and 17 and FTA 2; the no further remedial action (RA) planned report for Site CSA 1; two remediation verification reports (RVRs) for the polychlorinated biphenyl (PCB) storage area and LF 2; and converted three areas of concern (AOCs) to Installation Restoration Program (IRP) sites. Additionally, 23 AOCs were added to the IRP. The installation initiated the MARBO 5-year review. RAB activities continued and the installation maintained good communication with regulators.

In FY04, Andersen AFB initiated the preliminary design of the Urunao Dump Site remediation. The installation completed the RA for Site WP 6 and obtained regulatory inspection and approval. The interim RA (IRA) involving the fence installation land use control for LF 10 was completed. The installation finalized RVRs for Sites WP 6 and LF 10 and the MARBO 5-year review. Groundwater sampling was conducted as scheduled for MARBO and the Main Base.

In FY05, Andersen AFB began EE/CA investigations for former AOC Sites DA 52, 53, and 54, completed fieldwork for 13 of 23 former AOCs [Northeast (NE) sites], and began drafting PA/site inspection (SI) reports. The installation converted 33 AOCs (NE sites) to IRP sites. The Urunao OU ROD was signed by all three parties. The remedial design for the Urunao Dump Site was completed. In addition, the no action ROD for the Harmon OU was signed by the Air Force. The installation continued Main Base and MARBO groundwater monitoring and completed two new borings in MARBO and one new boring at Site FTA 2. The Air Force began the PAs for all newly identified sites (former AOCs or NE sites). The Air Force also began the PAs for Military Munitions Response Program (MMRP) sites.

In FY06, Andersen AFB completed the IRA and RVR for the Ritidian dump site. The installation also completed the IRA for LF 14 and started the IRA for LFs 19 and 20. Additionally, the installation completed a remedial investigation and feasibility study (RI/FS) for former AOC Sites DA 52, 53, and 54, and FTA 2. The Air Force finalized the PA/SI for 33 former AOCs, and two additional solid waste management unit sites were added to the IRP site list. The installation awarded funding for RA-construction Part I for the Urunao Dump Sites, and signed a 30-month right-of-entry between the landowner and the Air Force to enter the site for cleanup. Munitions Response Site Prioritization Protocol ratings for each MMRP site were developed.

## FY07 IRP Progress

Andersen AFB initiated cleanup of Urunao dump site 1. The installation signed four RODs and two other RODs are under final coordination prior to Air Force signature. The installation developed an exit strategy for the FTA 2 soil vapor extraction cleanup system. The cost of completing environmental restoration has changed significantly due to changes in estimating criteria.

The cleanup contract for LF 17 was awarded; however, cleanup contracts for LFs 8 and 13 were delayed due to administrative issues. IRAs for LFs 19 and 20 were delayed due to regulatory constraints on PCB disposal and the need to conduct a Marine Biota Study. RODs for Main Base Sites FTA 2, WPs 1 and 2,

and LFs 14, 19, and 20 were not completed due to additional site characterization requirements.

## FY07 MMRP Progress

The Air Force completed PAs at all identified MMRP sites.

## Plan of Action

Plan of action items for Andersen Air Force Base are grouped below according to program category.

### IRP

- Complete RI/FS for WPs 1 and 2 and LF 19 in FY08.
- Complete RODs and award cleanup contracts for LFs 8 and 13 in FY08.
- Conduct second MARBO 5-year review in FY08.
- Finalize RI/FS and proposed plan (PP)/ROD for Main Base LFs 2, 14, and 18; WP 3; FTA 2; and HWSA 1 in FY08.
- Finalize RI/FS and PP/ROD for Operations Support Buildings at Sites 1, 2, and 3 and Building 18006 in FY08.
- Execute the Urunao Dump Site Phase II cleanup action in FY08.

### MMRP

- Initiate and complete SIs for all identified sites in FY08.

<b>FFID:</b>	MD357182400000	<b>Funding to Date:</b>	\$ 62.2 million
<b>Size:</b>	4,300 acres	<b>Est. CTC (Comp Year):</b>	\$ 48.1 million (FY 2016)
<b>Mission:</b>	Provide Presidential airlift support	<b>IRP Sites (Final RIP/RC):</b>	31 (FY2010)
<b>HRS Score:</b>	50.00; placed on NPL in June 1999	<b>MMRP Sites (Final RIP/RC):</b>	1 (FY2016)
<b>IAG Status:</b>	FFA under negotiation	<b>Five-Year Review Status:</b>	Planned
<b>Contaminants:</b>	SVOCs, VOCs, PAHs, PCBs, pesticides, metals, explosives, propellants		
<b>Media Affected:</b>	Groundwater, Surface Water, Sediment, Soil		



Camp Springs, Maryland

**Progress To Date**

The mission at Andrews Air Force Base (AFB) is to provide Presidential airlift support. Environmental studies at Andrews AFB began in 1985. Historic fuel supply activities, landfills, and other support and training operations contaminated ground and surface water with metals, volatile organic compounds (VOCs), semi-volatile organic compounds (SVOCs), polyaromatic hydrocarbons (PAHs), polychlorinated biphenyls (PCBs), and pesticides. The EPA identified five source areas at the installation. Sources 1 (Site FT 02) and 2 (Site FT 03) are former fire training areas where fuel and waste oil were burned. Source 3 (Site SD 23) involved waste treatment plant sludge placement on the airfield. Source 4 (Landfill (LF) 05) is a former landfill used for disposal of general refuse, construction rubble, and fly ash. Source 5 consists of two landfills (LF 06 and LF 07) at Piscataway Creek used primarily for disposal of construction wastes, as well as small quantities of household waste and shop wastes (oils, paint thinner, and cleaning solvents). In June 1999, the installation was placed on the NPL. In 2005, the BRAC Commission recommended Andrews AFB for realignment.

To date, eight sites have been closed under the petroleum program and three Records of Decision (RODs) have been signed. The cleanup progress at Andrews AFB for FY03 through FY06 is detailed below.

In FY03, the installation submitted the draft basewide background study for review. Fieldwork commenced for the basewide ecological risk assessment and remedial investigations (RIs) at FT 04, LFs 06 and 07, and ST 10. Andrews AFB awarded a performance-based contract (PBC) for closure of ST 17 (Army and Air Force Exchange Service gas station plume). The installation also received regulatory closure for the ST 18 and ST 20 petroleum sites.

In FY04, the installation submitted draft RIs for LF 05, STs 14 and 10, and FT 04 to the partnering group, which consisted of representatives from EPA, Maryland Department of the Environment, and Prince George's County Health Department. In addition, the installation initiated feasibility studies (FSs) at both LF 05 and ST 14. The installation also completed RI work plans and began field work for Sources 1, 2, and 3, and SS 22. The installation conducted interim actions at the SS 11 fuel spill

site and a removal action at the area of concern (AOC) 24 former gas station, which included the removal of seven underground storage tanks. The installation also conducted a groundwater treatability study (TS) at FT 04 and a soil removal and groundwater treatment at ST 17 using a PBC.

In FY05, Andrews AFB completed RIs for FT 04 and ST 10, and submitted draft FSs to the regulatory partnering team for LF 05 and ST 14. The installation completed RODs for SS 12/13 and FT 04, and signed a ROD for ST 10. A no further response action planned (NFRAP) document for Site SS 13 was completed. NFRAP documents for SS 12 and ST 20 were sent for review and signature. The installation submitted a draft proposed plan for FT 04 for legal review. The TS at FT 04 continued to address the groundwater plume. The installation completed a soil management plan to support the Air Sovereignty Alert beddown at this site. The Air Force successfully completed a PBC with the regulatory closure of ST 17 and also awarded a PBC to obtain remedy in place (RIP) plus three years of operation at ST 14 and SS 22. The Air Force submitted draft RIs to the regulatory team for LFs 05, 06, and 07, and ST 14. The installation began a risk assessment at FT 03. The Air Force began the preliminary assessments (PAs) for Military Munitions Response Program (MMRP) sites.

In FY06, Andrews AFB completed RIs at LF 05 and ST 14 and submitted a draft RI to the regulatory team for SD 23. The installation initiated FSs for LFs 06 and 07 and SD 23. The installation signed a ROD for CERCLA Site FT 04 and finalized decision documents for four RCRA sites: STs 17, 18, and 20, and SS 21. Andrews AFB initiated and completed Triad field investigation for WP 16. Additionally, the installation completed Triad field investigation for FT 02 and initiated Triad field investigation for SS 27. The Air Force awarded a PBC for Triad investigations of SS 11 and 26, and AOC 32. The Air Force continued the PA for the Skeet and Trap Club (TS 345).

**FY07 IRP Progress**

Andrews AFB finalized RIs at FT 03, LFs 06 and 07, WP 16, and SD 23. The installation submitted draft RIs for FT 02 and SS 27. In addition, completion of Triad site investigations at WP 16 and SS 27 led to similar approaches being employed to investigate SSs 11, 26, and 28 (AOC 32). The FS for LFs 06 and 07 is underway, and the FSs for LF 05 (Source 4) and ST

14 were completed. RODs were signed for six sites, including SD 23, STs 14 and 15, WP 16, SS 22, and AOC 26. With the exception of ST 14 and SS 22, these were NFRAP RODs. Andrews AFB implemented remedial action-construction (RA-C) at ST 14 and SS 22 according to the plan selected in the ROD. In addition, the preliminary remedial design for LF 05 was completed. Two PBCs were awarded to implement remedies with three years of monitoring for FT 02, LF 05, ST 08, and SS 27.

All RODs included public comment periods that were announced in local newspapers.

**FY07 MMRP Progress**

The installation finalized comprehensive site evaluation phase I at all identified MMRP sites. In addition, the installation completed a PA and site inspection (SI) for the Skeet and Trap Club (TS 345).

**Plan of Action**

Plan of action items for Andrews Air Force Base are grouped below according to program category.

**IRP**

- Complete FSs for FT 03, SS 27, and LFs 06 and 07 in FY08.
- Execute RODs for FT 02 and 03, LF 05, ST 08 and 19, and SS 27 in FY08.
- Complete RA-C at FT 03 and STs 08, 14, and 19 in FY08.
- Complete RIs for SSs 11, 26, and 27 in FY08.

**MMRP**

- Commence comprehensive Phase II SIs at all identified MMRP sites in FY08.

<b>FFID:</b>	AL421382002700	<b>Funding to Date:</b>	\$ 64.3 million
<b>Size:</b>	600 acres	<b>Est. CTC (Comp Year):</b>	\$ 31.8 million (FY 2041)
<b>Mission:</b>	Maintain combat vehicles	<b>IRP Sites (Final RIP/RC):</b>	48 (FY2011)
<b>HRS Score:</b>	51.91; placed on NPL in March 1989	<b>MMRP Sites (Final RIP/RC):</b>	3 (FY2014)
<b>IAG Status:</b>	IAG signed in June 1990	<b>Five-Year Review Status:</b>	Completed
<b>Contaminants:</b>	phenols, petroleum products, acids, VOCs, caustics, SVOCs, Heavy metals		
<b>Media Affected:</b>	Surface Water, Soil, Groundwater		



Anniston, Alabama

## Progress To Date

Since 1948, the Army has repaired, rebuilt, and modified combat vehicles and artillery equipment at the Anniston Army Depot (AD) Southeast Industrial Area (SIA). Painting, degreasing, and plating operations at the installation generated wastes containing volatile organic compounds (VOCs), phenols, heavy metals, and petroleum distillates. EPA placed the installation on the NPL in March 1989, and the Army and EPA signed an interagency agreement (IAG) in 1990. In 2005, the BRAC Commission recommended Anniston AD for realignment. Prior to FY01, the Army cleanup activities included pumping waste from an unlined lagoon into a lined lagoon, removing sludge and contaminated soil at RCRA corrective action sites, installing groundwater interception and treatment systems to remove VOCs and phenols, and sampling off-post private wells and springs surrounding the installation. The latter addressed community concerns regarding residential groundwater wells. During FY98, the installation formed a Restoration Advisory Board (RAB) and updated the community relations plan. In FY01, operation of the new centralized groundwater treatment facility began. The installation completed 5-year reviews in FY99 and FY04.

Environmental investigations revealed Installation Restoration Program (IRP) sites. In FY03, the Army completed an inventory of all Military Munitions Response Program (MMRP) sites. To date, three interim Records of Decision (RODs) have been completed by the installation. The cleanup progress at Anniston AD for FY03 through FY06 is detailed below.

In FY03, the installation drafted Alabama risk-based corrective actions for Solid Waste Management Units 45 and 46 (Building 6) and submitted them to the Alabama Department of Environmental Management (ADEM) for review. The installation completed the draft Phase II of the combined groundwater remedial investigation (RI) and submitted it to regulatory agencies for review. The installation used a preliminary groundwater flow-and-transport model to generate a prioritized list of sample locations for monitoring points and wells. The Anniston Water Works and Sewer Board (AWWSB) and the Army completed an agreement for the installation of treatment equipment necessary to remove trichloroethylene (TCE) from Coldwater Spring, which is the source of water for AWWSB. As part of the agreement, the Army funded air stripping equipment

at the Coldwater Spring Treatment Plant. Anniston AD identified two sites during the MMRP inventory. Anniston AD continued to provide public education through the RAB on the health effects of TCE. The installation formed two tiers of partnering teams with the U.S. Army Corps of Engineers, the U.S. Army Environmental Center, ADEM, EPA, and selected contractors.

In FY04, the installation submitted the draft final SIA Soil Operable Unit (OU) ROD and the draft final Ammunition Storage Area (ASA) OU ROD. The Army submitted the draft final 5-year review to the regulators and awarded the technical impracticability evaluation contract. The installation completed the site inspection (SI) for the sites identified in the MMRP inventory.

In FY05, the installation completed Phase III comprehensive groundwater RI and submitted it to regulatory agencies for comment. The installation initiated the feasibility study (FS) for OU 1. The installation initiated the remedial designs (RDs) and remedial actions (RAs) for SIA Soil OU and ASA OU, including excavation of contaminated soil and installation of land use controls that provide gravel caps to reduce exposure. The installation developed a partnership with Jacksonville State University to compile and analyze data relevant to TCE concentrations in Coldwater Spring. The installation identified an additional MMRP site (former buffer zone for open burning operation). The installation submitted an SI report for three MMRP sites.

In FY06, the installation completed the final SIA Soils OU RD/RA work plan. The Army completed the RDs and RAs for the ASA OU 3, and signed the ASA OU 3 ROD with the stakeholders, ADEM, and EPA. The installation completed the draft comprehensive groundwater FS for OU 1. Anniston AD submitted the draft technical impracticability (TI) waiver report for OU 1 with the final report to serve as the formal TI waiver application. Anniston AD collected monthly samples from three locations at Coldwater Spring. Anniston AD completed the MMRP SIs, with three sites being evaluated as low priority. The three sites were recommended for RI. The installation held quarterly RAB meetings. The RAB discussed the availability of technical assistance for public participation contracts.

## FY07 IRP Progress

Anniston AD completed the comprehensive groundwater Phase III RI for OU 1. Anniston AD collected monthly samples from three locations at Coldwater Spring and annual samples from nearby private drinking water wells. The installation completed and submitted to stakeholders the Annual Land Use Control Report for OU 2. The installation completed the SI for OU 5. The installation completed the purchase of the adjacent property pursuant to CERCLA.

Regulatory issues delayed the final comprehensive groundwater Phase II focused FS, the SIA Soil OU ROD, the final groundwater interim ROD amendment, and the draft proposed plan for the groundwater OU. The proposed TI waiver was not accepted by the stakeholders and the Army agreed to evaluate specific groundwater remediation technologies in a focused FS.

The installation held quarterly RAB meetings.

## FY07 MMRP Progress

The Army conducted no MMRP actions at this installation.

## Plan of Action

Plan of action items for Anniston Army Depot are grouped below according to program category.

### IRP

- Evaluate specific technologies for applicability and benefits to OU 1 in a focused FS in FY08.
- Complete an expanded SI for OU 5 in FY08.
- Monitor groundwater under RA operation for OU 3 in FY08.
- Continue monthly sampling of Coldwater Spring and annual sampling of private wells in FY08.

### MMRP

There are no MMRP actions scheduled for FY08 or FY09.

<b>FFID:</b>	MA121382093900	<b>Funding to Date:</b>	\$ 100.9 million
<b>Size:</b>	48 acres	<b>Est. CTC (Comp Year):</b>	\$ 0.3 million (FY 2005)
<b>Mission:</b>	Conducted materials research and development	<b>IRP Sites (Final RIP/RC):</b>	18 (FY2005)
<b>HRS Score:</b>	48.60; placed on NPL in May 1994	<b>MMRP Sites (Final RIP/RC):</b>	None
<b>IAG Status:</b>	IAG signed in July 1995	<b>Five-Year Review Status:</b>	Completed
<b>Contaminants:</b>	Radionuclides, heavy metals, petroleum products, solvents, pesticides, PCBs		
<b>Media Affected:</b>	Surface Water and Soil		



Watertown, Massachusetts

**Progress To Date**

In December 1988, the BRAC Commission recommended closure of the Army Materials Technology Laboratory (Army Research Laboratory [ARL]), Watertown. The Army has moved the installation's mission activity to a combined laboratory at Aberdeen Proving Ground, Maryland. Studies at the installation revealed soil contaminated with petroleum products, pesticides, and polychlorinated biphenyls (PCBs). Similar chemical and metal contaminants were present in several laboratories and machine shops. EPA placed the installation on the NPL in 1994. The installation formed a BRAC cleanup team and a Restoration Advisory Board (RAB) in FY94. The Army and EPA signed an interagency agreement (IAG) in July 1995. The installation closed as scheduled on September 30, 1995. The installation divided its remedial investigation and feasibility study activities into three areas (Indoor, Outdoor, and Charles River). Interim actions have included asbestos abatement, removal of all known aboveground and underground storage tanks, remediation of petroleum-contaminated soil, decommissioning of the central heavy-oil-fired power plant, retrofitting and disposal of PCB-containing transformers, closing of cooling water discharge systems, and decommissioning the inactive reactor. EPA delisted a 37-acre and a 11-parcels from the NPL in FY00 and FY07, respectively. The Army completed 5-year reviews in FY02 and FY06.

To date, the installation has completed two Records of Decision (RODs), and the Army transferred the aforementioned 37-acre parcel to the town of Watertown. In FY02, the Army completed an inventory of all Military Munitions Response Program (MMRP) sites. The cleanup progress at ARL Watertown for FY03 through FY06 is detailed below.

In FY03, the installation collected sediment samples from the Charles River for the ecological risk assessment (ERA). All institutional controls (ICs) are in place for River Park. The Army completed the Environmental Baseline Survey, a finding of suitability to transfer, and additional transfer documents. The RAB continued to review documents and make site visits.

In FY04, the installation completed the baseline ERA and awaited final regulatory concurrence. The Army transferred 11

acres to the Massachusetts Department of Conservation and Recreation (MDCR). These 11 acres are located along the Charles River. The installation completed the sixth annual review of land use controls (LUCs) and concluded that controls remained successfully in place.

In FY05, the installation completed the Baseline ERA for Charles River Operational Unit (OU). EPA concurred with the ERA and signed a No Further Action ROD for the Charles River OU 2. The installation began the 5-year review process and found that it should stabilize the banks along the Charles River to prevent contaminants from migrating into the river. ARL Watertown completed a seventh annual review of LUCs and concluded that controls remained successfully in place.

In FY06, the installation completed the second 5-year review with continued annual inspections of all ICs recommended and endorsed by EPA. The installation completed a bank stabilization project along the Charles River. ARL Watertown completed the eighth annual inspection of the LUCs and found all to be in compliance. The installation also began the delisting process with EPA for the remaining 11 acres that were previously transferred to MDCR in FY04.

**FY07 IRP Progress**

The installation delisted the 11 acres transferred to MDCR in FY04. ARL Watertown completed the ninth annual inspection of the LUCs and found all to be in compliance. The operation and maintenance (O&M) of the bank stabilization project continued and became the model for all state bank rehabilitation projects. The installation has been transferred out of DoD control; restoration decisions have been assumed by the transferee. The cost of completing environmental restoration has changed significantly due to changes in estimating criteria.

The RAB was adjourned.

**FY07 MMRP Progress**

The Army has identified no MMRP sites at this installation.

**Plan of Action**

Plan of action items for Army Research Laboratory-Watertown are grouped below according to program category.

**IRP**

- Complete the tenth annual inspection of the LUCs in FY08.
- Conduct O&M of the bank stabilization project in FY08-FY09.

**MMRP**

There are no MMRP actions scheduled for FY08 or FY09.

<b>FFID:</b>	TN457172404400	<b>Funding to Date:</b>	\$ 92.1 million
<b>Size:</b>	40,000 acres	<b>Est. CTC (Comp Year):</b>	\$ 66.2 million (FY 2034)
<b>Mission:</b>	Simulate flight conditions	<b>IRP Sites (Final RIP/RC):</b>	26 (FY2011)
<b>HRS Score:</b>	50.00; proposed for NPL in August 1994	<b>MMRP Sites (Final RIP/RC):</b>	11 (FY2015)
<b>IAG Status:</b>	None	<b>Five-Year Review Status:</b>	Planned
<b>Contaminants:</b>	VOCs, PCBs, heavy metals, acids, oleum hydrocarbons, asbestos, solvents, SVOCs		
<b>Media Affected:</b>	Groundwater, Surface Water, Sediment, Soil		



Coffee and Franklin Counties, Tennessee

**Progress To Date**

Arnold Engineering Development Center (AEDC) is an advanced aerospace ground test, evaluation, and simulation facility. EPA proposed the installation for the NPL in August 1994. AEDC conducts tests, engineering analyses, and technical evaluations for research, system development, and operational programs that simulate operational conditions. Sites at the installation include a landfill, a chemical treatment plant, AEDC’s main testing area, a leaching pit, a leachate burn area, and a fire training area. Chlorinated solvents are the primary contaminants. The installation converted its technical review committee to a Restoration Advisory Board (RAB) in FY95.

The cleanup progress at AEDC for FY03 through FY06 is detailed below.

In FY03, the installation completed the corrective measure study (CMS) for Landfill (LF) 3. LF 3 also achieved remedy in place (RIP) during the fourth quarter. The interim measure (IM) upgrade for Sites WP 06 and 08 was completed and an IM for installing access controls at SS 19 was initiated. Site WP 20 achieved RIP and response complete (RC). Risk at Site WP 8 was reduced from high to medium. Risk at Sites WP 06 and SDs 04 and 09 was reduced from medium to low. RCRA facility investigations (RFIs) for SS 25 and 26 began. The IM for SS 22 was deleted with regulatory acceptance. AEDC achieved a "Yes" for both of the EPA’s Government Performance and Results Act environmental indicators. Human Exposures Under Control and Migration of Contaminated Groundwater Under Control were achieved.

In FY04, AEDC completed RFIs for LF 01 and SS 19. The installation completed CMSs for LF 01 and Sites WP 02, 06, 11, and 12. Sites SD 04 and 09 achieved RIP and RC. The installation also designed and initiated construction of an IM for contaminated mass removal associated with SS 22 chlorinated solvent plume.

In FY05, AEDC completed draft statements of basis describing RIP and RC for Sites WP 02 and 11 and FT 10, as well as completed an RFI for SS 26. The Air Force also completed a CMS for LF 03; and bench-scale treatability studies of in situ treatment using zero-valent iron (ZVI), chemical oxidation, and enhanced bioremediation were completed for Site WP 06. The

Air Force began the preliminary assessments (PAs) for all identified Military Munitions Response Program (MMRP) sites. The installation hosted two site tours, one for RAB members and one for local university students.

In FY06, AEDC completed the IM construction effort at SS 22, reducing risk from high to low. The installation also completed the in situ reductive dechlorination IM utilizing ZVI at Site WP 12. The installation continued to investigate the extent of contamination for the RFI for SS 25 and continued CMSs at Site LF 01 and Sites WP 02, 06, 08, and 11. Additionally, the Air Force awarded a contract for IM expansion at LF 01. The Air Force continued the PAs at all identified sites. The RAB conducted a tour for local university students.

**FY07 IRP Progress**

The installation completed IM expansion at LF 01 and met the DoD DERP risk reduction goal. The IM design of a thermal treatment remediation study to address the dense non-aqueous phase liquid source area was completed at Site WP 08. AEDC initiated IM efforts at SS 19, which will reduce the risk at that site from medium to low. The base completed the RFI final phase for SS 25. The installation completed CMSs for Sites WP 06, 08, and 12, and SS 19. The cost of completing environmental restoration has changed significantly due to changes in estimating criteria.

The facility action plan group met with the Tennessee state regulators, as well as the RAB co-chair. In addition, an IRP tour was given to local university students. AEDC was a participant in the State of Tennessee Tier II Federal Facilities Partnership Committee.

**FY07 MMRP Progress**

The installation completed comprehensive site evaluation (CSE) Phase I PAs for all identified sites. AEDC completed a wide-area assessment for orthophotography and light detection and ranging terrain data collection to help identify military munitions features.

**Plan of Action**

Plan of action items for Arnold Engineering Development Center are grouped below according to program category.

**IRP**

- Continue IM effort at SS 19 in FY08.
- Prepare RFI reports for SS 25 and 26 in FY08.
- Prepare CMS reports for LF 01, and Sites WP 08, SS 25 and 26 in FY08.
- Draft statements of basis for Sites WP 02 and 12, LF 03, SD 05, and SS 19 in FY08.
- Initiate thermal treatment remediation at Site WP 08 in FY08-FY09.
- Draft statements of basis for LF 01, Sites WP 06 and 08, and SS 22 in FY09.

**MMRP**

- Conduct a CSE Phase II in FY08.

<b>FFID:</b>	NJ257282844900	<b>Est. CTC (Comp Year):</b>	\$ 2.0 million (FY 2017)
<b>Size:</b>	280 acres	<b>IRP Sites (Final RIP/RC):</b>	4 (FY2011)
<b>Mission:</b>	Provide Air National Guard training	<b>MMRP Sites (Final RIP/RC):</b>	None
<b>HRS Score:</b>	39.65; placed on NPL in August 1990	<b>Five-Year Review Status:</b>	Completed and planned
<b>IAG Status:</b>	FFA signed in May 1993		
<b>Contaminants:</b>	VOCs, SVOCs, lead, copper, pesticides, metals		
<b>Media Affected:</b>	Groundwater and Soil		
<b>Funding to Date:</b>	\$ 2.1 million		



Pleasantville, New Jersey

## Progress To Date

Atlantic City Air National Guard (ANG) Base is home to the 177th Fighter Squadron whose mission is to maintain fighter aircraft on continuous peacetime air defense alert to preserve U.S. air sovereignty. The installation is part of the Federal Aviation Administration (FAA) Technical Center, which EPA placed on the NPL in August 1990. The FAA Technical Center property, covering approximately 5,100 acres, includes the FAA Williams J. Hughes Technical Center, Atlantic City ANG Base, Atlantic City International Airport, and U.S. Coast Guard Air Station Atlantic City. Except for 84 acres owned by the South Jersey Transportation Authority (airport terminal and support facility areas), all the property is federally owned. The FAA facility was placed on the NPL because of its proximity to the South Branch of Doughty's Mill Stream, which flows into the Upper Atlantic City Reservoir, a source of drinking water for local residents. In addition, a sole-source aquifer underlying the FAA facility contributes 85 to 90 percent of the watershed for the Upper Atlantic City Reservoir. Various sites (salvage yard, fire training facility, jet fuel farm, fuel mist test facility, and a landfill) on the FAA portion of the property were primarily responsible for the placement of the facility on the NPL. Volatile organic compounds, metals, and pesticides were detected in groundwater. The FAA signed a federal facility agreement (FFA) in May 1993. The FAA and ANG signed a memorandum of agreement in FY95 outlining the coordination for completion of investigations and remedial activities at sites identified on the ANG property. Site investigations conducted between 1996 and 2002 were managed by the FAA but funded by the ANG. In FY03, ANG took over management of the site investigations. Only restoration activities at ANG sites are funded under the Environmental Restoration Account. The FAA funds activities at other sites on the facility. The FAA completed 5-year reviews for the FAA Technical Center in 1999 and 2004 that included discussion of the ANG sites. In 2005, the BRAC Commission recommended Atlantic City ANG Base for realignment.

Environmental studies have identified Installation Restoration Program (IRP) sites on the ANG property (286 acres under permit from the FAA). The cleanup progress at the Atlantic City ANG Base for FY03 through FY06 is detailed below.

In FY03, the installation completed field investigations in response to EPA comments on the site inspection addendum and ANG assumed lead agency control of site investigations.

In FY04, the installation initiated a remedial investigation (RI) for four sites (SSs 02, 03, 05, and 06).

In FY05, Atlantic City ANG Base continued the RI. The Air Force updated its Military Munitions Response Program (MMRP) inventory. No MMRP sites were identified at this installation during the inventory development.

In FY06, the installation continued the RI.

### FY07 IRP Progress

Atlantic City ANG Base continued the RI. The cost of completing environmental restoration has changed significantly due to changes in estimating criteria.

Technical issues delayed completion of the RI.

### FY07 MMRP Progress

The Air Force has identified no MMRP sites at this installation.

### Plan of Action

Plan of action items for Atlantic City Air National Guard Base are grouped below according to program category.

#### IRP

- Submit draft RI in FY08.
- Begin feasibility study in FY08.

#### MMRP

- There are no MMRP actions scheduled for FY08 or FY09.

<b>FFID:</b>	WA017002729100	<b>Media Affected:</b>	Groundwater, Surface Water, Sediment, Soil
<b>Size:</b>	7,201 acres	<b>Funding to Date:</b>	\$ 87.7 million
<b>Mission:</b>	Provide support base for Trident submarines	<b>Est. CTC (Comp Year):</b>	\$ 33.5 million (FY 2040)
<b>HRS Score:</b>	30.42 (Bangor Ordnance Disposal), placed on NPL in July 1987; 55.91 (Bangor Naval Submarine Base), placed on NPL in August 1990	<b>IRP Sites (Final RIP/RC):</b>	41 (FY2001)
<b>IAG Status:</b>	FFA signed in January 1990	<b>MMRP Sites (Final RIP/RC):</b>	1 (FY2010)
<b>Contaminants:</b>	Residual TNT, RDX, Otto fuel, VOCs, SVOCs, metals, explosives, propellants	<b>Five-Year Review Status:</b>	Completed and planned



Silverdale, Washington

## Progress To Date

From the early 1940s until it was commissioned as a submarine base in 1977, Bangor Naval Submarine Base was used to store, process, and ship munitions. Past chemical releases at the installation are primarily related to the detonation, demilitarization, and disposal of explosive ordnance and associated activities. The Navy conducted an initial assessment study in FY83 to identify sites requiring further investigation because of suspected soil and groundwater contamination. EPA placed the Bangor Ordnance Disposal area on the NPL in July 1987 and the Bangor Naval Submarine Base in August 1990. In January 1990, the Navy, EPA, and the State of Washington signed a federal facility agreement (FFA) for the installation. In 2005, the BRAC Commission recommended Bangor Naval Submarine Base for realignment. The installation completed 5-year reviews in FY00 and FY05.

This installation has grouped sites into operable units (OUs). The installation has completed eight Records of Decision and performed five expedited response actions. Construction completion documents for OUs 1, 2, and 7 were submitted to EPA and the Washington Department of Ecology. In FY02, the Navy conducted an inventory of Military Munitions Response Program (MMRP) sites. The cleanup progress for Bangor Naval Submarine Base for FY03 through FY06 is detailed below.

In FY03, the installation collected additional data to demonstrate that the site treatment system could be shut down. The installation continued long-term operation (LTO) and long-term management (LTM) at OUs 1, 2, and 8. Land use controls (LUCs) and institutional controls (ICs) were implemented and maintained. Monitored natural attenuation was demonstrated as a viable alternative remedy at OU 1.

In FY04, the installation collected more data to demonstrate that the pump-and-treat system at OU 1 (Site 200) could be shut down. The Navy began the second basewide 5-year review. The installation continued LTM and LTO at OUs 1, 2, and 8, and began optimization studies at Sites 200 and 204. The installation initiated a cleanup level study for Pogy Road. The installation implemented and maintained LUCs and ICs.

In FY05, Bangor Naval Submarine Base completed an optimization study at OUs 1, 2, and 8 and presented an

alternate remedy and systems shutdown to regulators. The Navy completed a second 5-year review. The installation completed the Pogy Road cleanup and discontinued product recovery at OU 8. The Navy initiated a preliminary study at MMRP Site EO 300.

In FY06, Bangor Naval Submarine Base completed repairs to Site 201 and negotiated with regulators to implement recommendations from the optimization study. The Navy also discontinued sampling at Site 26. The installation finished sampling at OUs 1, 2, and 7, and did not detect perchlorate. The Navy completed a preliminary investigation and report at MMRP Site EO 300.

## FY07 IRP Progress

Bangor Naval Submarine Base implemented an internal optimization study at Sites 200 and 204. The installation initiated an optimization study at OU 8, and a soil delisting study at OUs 1, 2, 3, 7, and 8. The Navy repaired wells at OUs 1 and 2. The installation started the assessment of damaged engineering controls at OUs 1, 2, and 8. The Navy continued LTO and LTM at OUs 1, 2, and 8. The installation initiated assessment and repair to ICs at all OUs.

Regulatory issues delayed closing or repairing wells at OU 8.

## FY07 MMRP Progress

The Navy conducted a remedial investigation at Site EO 300.

## Plan of Action

Plan of action items for Bangor Naval Submarine Base are grouped below according to program category.

### IRP

- Reduce sampling frequency and repair or close wells at OU 8 in FY08-FY09.
- Dismantle the soil vapor extraction system at OU 8 in FY08-FY09.
- Install new wells and update site model at OU 1 in FY08-FY09.
- Conduct study to close treatment plant at OU 1 in FY08-FY09.

## MMRP

- Conduct munitions constituent investigations at EO 300 in FY08-FY09.

<b>FFID:</b>	HI917002432600	<b>Media Affected:</b>	Groundwater, Surface Water, Sediment, Soil
<b>Size:</b>	3,816 acres	<b>Funding to Date:</b>	\$ 61.6 million
<b>Mission:</b>	Maintain and operate facilities and provide services and material support to aviation activities and units of the operating forces	<b>Est. CTC (Comp Year):</b>	\$ 2.8 million (FY 2017)
<b>HRS Score:</b>	N/A	<b>IRP Sites (Final RIP/RC):</b>	33 (FY2013)
<b>IAG Status:</b>	None	<b>MMRP Sites (Final RIP/RC):</b>	None
<b>Contaminants:</b>	Heavy metals, petroleum hydrocarbons, pesticides, solvents, asbestos, PCBs, VOCs, SVOCs	<b>Five-Year Review Status:</b>	Completed and planned



Barbers Point, Hawaii

**Progress To Date**

In July 1993, the BRAC Commission recommended closure of Barbers Point Naval Air Station (NAS). The installation closed on July 2, 1999. In FY94, the installation completed an Environmental Baseline Survey, and formed a Restoration Advisory Board and a BRAC cleanup team (BCT). In FY97, the latest version of the BRAC cleanup plan was completed, along with a land reuse plan. The installation completed the first 5-year review in FY06.

To date, the installation has signed Records of Decision for Sites 1, 8, 13, 15, 19, and 20. The installation closed Sites 5, 8 through 13, and 19 in FY99. Site 1 was transferred in FY02. In FY02, the Navy conducted an inventory of Military Munitions Response Program (MMRP) sites. The cleanup progress for Barbers Point NAS for FY03 through FY06 is detailed below.

In FY03, Barbers Point NAS continued the ecological risk assessment (ERA) for non-BRAC Sites 6, 7, 17, and 26 through 31. The installation continued removal actions on Site 18 firing ranges. The installation performed a human health risk assessment for Site 2. In addition, the interim remedial action and conservation plan at Northern Trap and Skeet Range (Site 18) were negotiated with the U.S. Fish and Wildlife Service (FWS) to ensure the protection of the endangered Ewa Plains akoko plant.

In FY04, the Hawaii Department of Health and FWS identified an additional larger wetland area at Ordy Pond (Site 2), which required additional sampling to determine if further action was necessary. The results were included in the ERA for Ordy Pond (Site 2). The installation completed the additional removal actions required on the Site 18 firing ranges and the Site 20 transformers.

In FY05, Barbers Point NAS completed the ERA for non-BRAC Sites 6, 7, 17, and 26 through 31. The installation also completed the removal action for non-BRAC Sites 6, 7, and 29. Decision documents for non-BRAC Sites 6, 7, and 27 were completed. The installation completed additional sampling and the ERA of Ordy Pond. Barbers Point NAS completed the cap for the consolidation unit.

In FY06, Barbers Point NAS completed the first 5-year review for various sites.

**FY07 IRP Progress**

Barbers Point NAS achieved site closeout for Ordy Pond (Site 2), and the Northern and Southern Trap and Skeet Range (Site 18). The cost of completing environmental restoration has changed significantly due to technical issues and changes in estimating criteria.

Administrative issues delayed the site closeout for the consolidation unit.

The BCT attended the public meetings for the proposed plans for the closed sites.

**FY07 MMRP Progress**

The Navy has identified no MMRP sites at this installation.

**Plan of Action**

Plan of action items for Barbers Point Naval Air Station are grouped below according to program category.

**IRP**

- Complete site closeout for the consolidation unit in FY08.
- Complete finding of suitability to transfer for various parcels in FY08-FY09.

**MMRP**

There are no MMRP actions scheduled for FY08 or FY09.

<b>FFID:</b>	CA917302426100	<b>Funding to Date:</b>	\$ 105.8 million
<b>Size:</b>	5,688 acres	<b>Est. CTC (Comp Year):</b>	\$ 35.2 million (FY 2034)
<b>Mission:</b>	Maintain, repair, rebuild, store, and distribute supplies and equipment; formerly conducted industrial operations	<b>IRP Sites (Final RIP/RC):</b>	42 (FY2011)
<b>HRS Score:</b>	37.93; placed on NPL in November 1989	<b>MMRP Sites (Final RIP/RC):</b>	None
<b>IAG Status:</b>	FFA signed in October 1990	<b>Five-Year Review Status:</b>	Underway and planned
<b>Contaminants:</b>	Heavy metals, PCBs, petroleum hydrocarbons, pesticides, herbicides, MTBE, VOCs, SVOCs, radioactive materials		
<b>Media Affected:</b>	Groundwater and Soil		



Barstow, California

**Progress To Date**

Barstow Marine Corps Logistics Base (MCLB) consists of Yermo Annex, Nebo Main Base, and the Rifle Range. Vehicle maintenance, repair and maintenance of weapons and missile systems, and storage of petroleum and chemical products contributed to contamination. The site types include sludge disposal areas, plating waste disposal areas, low-level radioactive waste storage areas, spill sites, underground storage tank (UST) sites, and evaporation ponds. EPA placed the installation on the NPL in November 1989 after high concentrations of trichloroethylene (TCE) were detected in groundwater monitoring wells. The installation signed a federal facility agreement (FFA) in October 1990. In 2005, the BRAC Commission recommended Barstow MCLB for realignment. The installation formed a technical review committee, prepared a community relations plan (CRP), and established an information repository and administrative record in FY91. The CRP was revised in FY02. Public meetings are held annually; however, no interest exists in forming a Restoration Advisory Board. In FY03, the installation completed a 5-year review.

To date, CERCLA and UST regulation sites have been identified at this installation. The installation has completed Records of Decision (RODs) for Operable Units (OUs) 1, 2, 3, 4, 5, and 6. The installation closed OUs 3 and 4 in FY00 and OUs 5 and 6 in FY02. In FY02, the Navy conducted an inventory of Military Munitions Response Program (MMRP) sites. The cleanup progress at Barstow MCLB for FY03 through FY06 is detailed below.

In FY03, the installation completed a 5-year review. The OU 7 remedial investigation (RI) and OU 2 Nebo North air sparging/soil vapor extraction (AS/SVE) treatability study fieldwork was completed. The system at OU 2 Nebo South was expanded. The installation tracked the methyl tertiary-butyl ether (MTBE) plume that has commingled with the base volatile organic compound (VOC) plume and determined that a private entity was the source.

In FY04, the installation completed OU 2 Nebo North AS/SVE report. Remedial action (RA) operations (RA-O) and long-term management (LTM) continued at CERCLA Areas of Concern (CAOCs) 37 and 38, and landfill caps. The installation worked with Regional Water Quality Control Board and the private

entity to manage the MTBE plume. The installation requested compensation from the private entity. The installation submitted the draft OU 7 RI report. Technical memorandums in support of an explanation of significant differences (ESD) for OUs 1 and 2 were completed.

In FY05, the installation completed repairs at CAOC 7. RA-O at CAOCs 37 and 38, and landfill cap LTM continued. The OUs 1 and 2 optimization studies were completed and preparation of ESDs was started. The installation continued working with the Navy's Office of the General Council (OGC) to recapture funds related to the MTBE plume. The Navy obtained closures from the State for 44 USTs.

In FY06, Barstow MCLB, EPA, and the State of California approved the OU 2 Nebo South ROD. The installation implemented RA-O activities for groundwater at CAOCs 37 and 38 and LTM for landfills. Coordination with OGC to recapture funds related to the MTBE plume continued. The installation initiated an ecological risk assessment (ERA) and RI for OU 7.

**FY07 IRP Progress**

The installation repaired the CAOC 37 and 38 systems, which resulted in increased efficiency of the remediation systems. The cost of completing environmental restoration has changed significantly due to technical issues.

The Navy continued partnerships with regulators through systematic planning, meetings, and site tours.

**FY07 MMRP Progress**

The Navy has identified no MMRP sites at this installation.

**Plan of Action**

Plan of action items for Barstow Marine Corps Logistics Base are grouped below according to program category.

**IRP**

- Finalize the ERA and RI at OU 7 in FY08.
- Finalize the MTBE settlement agreement in FY08.
- Document a formal optimization between Navy, operations and maintenance contractor and Naval Facilities Engineering Service Center in FY08.
- Update the site management plan in FY08.

**MMRP**

There are no MMRP actions scheduled for FY08 or FY09.

<b>FFID:</b>	MA117002357000	<b>Funding to Date:</b>	\$ 21.7 million
<b>Size:</b>	46 acres	<b>Est. CTC (Comp Year):</b>	\$ 32.3 million (FY 2036)
<b>Mission:</b>	Designed, fabricated, and tested prototype weapons and equipment	<b>IRP Sites (Final RIP/RC):</b>	4 (FY2013)
<b>HRS Score:</b>	50.00; placed on NPL in May 1994	<b>MMRP Sites (Final RIP/RC):</b>	None
<b>IAG Status:</b>	FFA signed in September 1999	<b>Five-Year Review Status:</b>	A 5-year review is not required for this installation.
<b>Contaminants:</b>	Acids, BTEX, incinerator ash, industrial wastes, POLs, photographic wastes, solvents, paints, VOCs, SVOCs, metals		
<b>Media Affected:</b>	Groundwater, Surface Water, Sediment, Soil		



Bedford, Massachusetts

**Progress To Date**

The Bedford Naval Weapons Industrial Reserve Plant (NWIRP), a former government-owned, contractor-operated plant, designed, produced and tested prototype equipment for missile guidance and control systems. Contaminants found at the installation include acids, benzene, toluene, ethylbenzene, and xylene (BTEX), incinerator ash, industrial wastes, paints, petroleum/oil/lubricants (POLs), photographic wastes, solvents, and volatile organic compounds (VOCs). A community relations plan was developed in FY89 and updated in FY92. EPA placed the installation on the NPL in May 1994, and the installation signed a federal facility agreement (FFA) in September 1999. The installation established a technical review committee in FY89 and converted it to a Restoration Advisory Board in FY95. An information repository is maintained. The facility was declared excess and closed as a non-BRAC closure on December 31, 2000.

Sites identified at the installation include: Site 1: incinerator ash disposal area (potential soil contamination with ash and heavy metals); Site 2: components-laboratory fuel tank (potential soil contamination with low levels of POLs); Site 3: northwest groundwater plume (groundwater contaminated with VOCs); and Site 4: former fuel pump/tank BTEX area (soil and groundwater contaminated with BTEX). The installation completed a No Further Action Record of Decision (ROD) for Sites 1 and 2. In FY02, the Navy completed an inventory of all Military Munitions Response Program (MMRP) sites. The cleanup progress at Bedford NWIRP for FY03 through FY06 is detailed below.

In FY03, the Site 4 remedial action (RA) (in situ chemical oxidation process) continued and the Site 3 pilot study began. Thermal treatment, an innovative technology, was evaluated for groundwater remediation at Sites 3 and 4. The Site 3 pilot study began, with technology at Site 4 being applied as a continuation of the removal action. Regular monitoring of the Site 3 groundwater treatment facility continued.

In FY04, the installation completed the Site 4 heating portion of the removal action. The Navy completed thermal treatment for Sites 3 and 4, and cool-down for Site 4 began. The Navy began the Site 4 ROD. The installation continued regular monitoring of the Site 3 groundwater treatment facility.

In FY05, the Navy continued monitored natural attenuation (MNA) at Site 4 and cool-down of the thermal treatment pilot study at Site 3. The installation began follow-up source area/bedrock well sampling at Site 3. The Navy continued regular monitoring of the Site 3 groundwater treatment facility.

In FY06, Bedford NWIRP continued cool down of the Site 3 thermal treatment pilot study. The installation also continued regular monitoring at the Site 3 groundwater treatment facility.

**FY07 IRP Progress**

Bedford NWIRP completed the groundwater modeling and drafted the revised feasibility study (FS) for Site 3. The installation continued regular monitoring of the Site 3 groundwater treatment facility.

Technical issues delayed the Site 4 MNA Report, ROD, and RA. Technical issues also delayed the proposed plan (PP) for Site 3. Regulatory issues delayed the Site 3 FS.

**FY07 MMRP Progress**

The Navy has identified no MMRP sites at this installation.

**Plan of Action**

Plan of action items for Bedford Naval Weapons Industrial Reserve Plant are grouped below according to program category.

**IRP**

- Obtain sufficient data for the Site 4 MNA Report, ROD, and RA in FY08.
- Complete the Site 3 revised FS and prepare the Site 3 PP in FY08.
- Continue regular monitoring of the Site 3 groundwater treatment facility in FY08.

**MMRP**

There are no MMRP actions scheduled for FY08 or FY09.

<b>FFID:</b>	TX657002418800	<b>Funding to Date:</b>	\$ 48.6 million
<b>Size:</b>	3,197 acres	<b>Est. CTC (Comp Year):</b>	\$ 1.6 million (FY 2016)
<b>Mission:</b>	Supported reconnaissance and fighter aircraft operations	<b>IRP Sites (Final RIP/RC):</b>	32 (FY1999)
<b>HRS Score:</b>	N/A	<b>MMRP Sites (Final RIP/RC):</b>	8 (FY2002)
<b>IAG Status:</b>	None	<b>Five-Year Review Status:</b>	Completed and planned
<b>Contaminants:</b>	VOCs, pesticides, petroleum hydrocarbons, metals, TCE, low-level radioactive waste, SVOCs		
<b>Media Affected:</b>	Groundwater and Soil		



Austin, Texas

**Progress To Date**

Bergstrom Air Force Base (AFB) began operations in 1942 and supported flying operations for various aircraft throughout its history. In July 1991, the BRAC Commission recommended closure of the installation. The installation closed on September 30, 1993, and the City of Austin began to convert the installation into the Austin-Bergstrom International Airport. Site types identified at the installation include underground storage tanks (USTs), landfills, fuel spill areas, a pesticide evaporation pit, firing ranges, a sludge weathering pit, aboveground storage tanks (ASTs), oil/water separators, a fire training area, and a radioactive waste disposal area. Interim remedial actions have included removal of 106 USTs, removal of contaminated soil and low-level radioactive wastes, and closure of 45 ASTs. A BRAC Cleanup Team and a Restoration Advisory Board (RAB) were formed in FY94. The RAB was disbanded in FY97 because of the successful remediation efforts at the installation. A basewide Environmental Baseline Survey (EBS) was completed in 1993, and supplemental EBSs (SEBSs) were prepared to support property transfer. The Air Force updated the community relations plan (CRP) in FY05 and completed the first 5-year review in FY06.

Environmental studies since FY83 have identified CERCLA sites and RCRA areas of concern (AOCs). To date, 478 sites and AOCs have been designated for no further action. All property (3,197 acres) at the installation has been transferred to the City of Austin. In FY04, the Air Force conducted an inventory of Military Munitions Response Program (MMRP) sites. The cleanup progress at Bergstrom AFB for FY03 through FY06 is detailed below.

In FY03, the Air Force began processing the finding of suitability to transfer (FOST)/SEBS for the Solid Waste Management Unit (SWMU) 76 Area 2 trichloroethylene (TCE) plume (SS 032). Operation of the existing pump-and-treat, air sparging, and soil vapor extraction (SVE) remediation systems continued for the SWMU 76 Area 1 TCE Plume (SS 031). Long-term management (LTM) continued for the combined Southeast Landfills (LFs) 3 through 7, and documentation was developed to obtain operating properly and successfully (OP&S) determinations for the five sites. The Explosive Ordnance Disposal (EOD) area (56 acres) residential clearance certification was submitted to the Air Force Safety Center for

processing and to the DoD Explosives Safety Board (DDESB) for review and approval. The DDESB safety clearance was approved, allowing transfer of the EOD area.

In FY04, 161 acres were transferred, and the Air Force prepared SEBSs, FOSTs, and deeds for the 56-acre EOD area and the 59-acre SWMU 76 Area 2 TCE plume parcels. The FOST and OP&S documents for the combined Southeast LFs 3 through 7 and the SWMU 76 Area 1 TCE Plume were also prepared. Operation and maintenance (O&M) and LTM were conducted for the combined Southeast LFs 3 through 7 and O&M of the Area 1 TCE plume. The Air Force conducted an inventory of MMRP sites. MMRP sites were identified at this installation.

In FY05, EPA approval of the FOST and OP&S documents for the SWMU 76 Area 1 TCE plume and the combined Southeast LFs 3 through 7 was obtained. The Air Force transferred the remaining parcels (361 acres) and deactivated the SWMU 76 Area 1 SVE system. O&M and LTM for the combined Southeast LFs 3 through 7 and O&M of the Area 1 TCE plume continued under a fixed-price remediation contract. The CRP was updated to indicate the status of remediation efforts and identify ongoing opportunities for community involvement. The Air Force completed a draft of the first 5-year review. The Air Force began evaluating requirements at the identified MMRP sites.

In FY06, the Air Force completed the first 5-year review, which concluded that all remedies continue to be protective of human health and the environment. The annual regional fixed-price contract was awarded to continue O&M and LTM for the combined Southeast LFs 3 through 7; O&M of the SWMU 76 Area 1 TCE plume continued under a regional fixed-price remediation contract. The SWMU 76 air sparge system was deactivated and quarterly hot spot groundwater samples were collected to demonstrate no rebound in TCE concentrations as a result of system deactivation. The installation completed an evaluation of MMRP sites.

**FY07 IRP Progress**

The Air Force awarded the annual regional fixed-price contract to continue LTM and O&M of the combined Southeast LFs 3 through 7 and O&M of the SWMU 76 Area 1 TCE plume. Contaminant concentrations in both plumes continued to

decrease and are approaching cleanup levels. The Air Force prepared a statement of work for a regional performance-based contract (PBC) to continue LTM, O&M, well decommissioning, and other activities at Bergstrom AFB for a 10-year period. The cost of completing environmental restoration has changed significantly due to changes in estimating criteria.

**FY07 MMRP Progress**

Bergstrom AFB prepared and submitted documentation to DDESB to obtain closure for seven MMRP sites.

**Plan of Action**

Plan of action items for Bergstrom Air Force Base are grouped below according to program category.

**IRP**

- Award a regional multi-year PBC to continue LTM, O&M, well decommissioning, and other activities in FY08-FY09.
- Continue O&M and LTM activities at LFs 3 through 7 and SWMU 76 in FY08-FY09.

**MMRP**

- Complete closure of seven MMRP sites in FY08-FY09.

<b>FFID:</b>	MD357182400000	<b>Est. CTC (Comp Year):</b>	\$ 7.5 million (FY 2016)
<b>Size:</b>	8 acres	<b>IRP Sites (Final RIP/RC):</b>	3 (FY2008)
<b>Mission:</b>	None (inactive)	<b>MMRP Sites (Final RIP/RC):</b>	None
<b>HRS Score:</b>	50.15; placed on NPL in June 1999	<b>Five-Year Review Status:</b>	Planned
<b>IAG Status:</b>	FFA under negotiation		
<b>Contaminants:</b>	PCBs, solvents (including TCE), VOCs, SVOCs, metals		
<b>Media Affected:</b>	Groundwater, Surface Water, Sediment, Soil		
<b>Funding to Date:</b>	\$ 13.0 million		



Brandywine, Maryland

**Progress To Date**

The Brandywine facility is an inactive eight-acre former Defense Reutilization and Marketing Office (DRMO) site located approximately eight miles south of Andrews Air Force Base (AFB). Andrews AFB acquired the property from the Navy in 1961, and used it to store bulky aircraft parts, aircraft engine fuels and lubricants, paints, chemicals, and other supplies subject to deterioration. The facility is identified as Spill Site 01 in the Andrews AFB Installation Restoration Program (IRP) site inventory. As a Defense Property Disposal Office in the 1970s, this facility temporarily accumulated wastes from other area DoD facilities. No hazardous materials have been stored on site since 1980. Brandywine DRMO was placed on the NPL in June 1999. The primary contaminants of concern are polychlorinated biphenyls (PCBs) and solvents, including trichloroethylene (TCE). The surface water migration pathway for the facility includes wetlands, Timothy Branch, and Mattawoman Creek. No personnel currently occupy the site. To prevent access to the property, a locked chain-link fence was constructed around the site perimeter. The Air Force has performed three PCB removal actions, removing a total of 17,000 cubic yards of contaminated soil.

To date, Brandywine DRMO has signed an interim Record of Decision (ROD). The cleanup progress at Brandywine DRMO for FY03 through FY06 is detailed below.

In FY03, the treatment system continued to operate as permissible during lulls in remedial investigation (RI) field efforts.

In FY04, the installation initiated the feasibility study (FS) and submitted the draft RI report to the partnering group, which consisted of members from EPA, Maryland Department of the Environment, and Prince George’s County Health Department.

In FY05, Brandywine DRMO finalized an RI and prepared the draft focused FS. The installation began a treatability study (TS) for the off-site groundwater plume. Brandywine DRMO began development of the engineering evaluation and cost analysis (EE/CA) for off-site PCBs. The Air Force updated its Military Munitions Response Program (MMRP) inventory. No MMRP sites were identified at this installation during the inventory development. The installation sent an inaugural newsletter to

the local community on the progress and schedule at the site and gave a presentation of on-site activities to the Brandywine and North Keys Civic Association.

In FY06, Brandywine DRMO continued operations of the existing interim remedial action (IRA) pump-and-treat system to remediate contaminated groundwater. The installation completed the focused FS, which evaluated and presented groundwater remedies for the aqueous phase plume and management of the dense non-aqueous phase liquid (DNAPL). The installation also performed biotreatability and oxidation TSs to determine the effective means of groundwater remediation for the off-site plume. Brandywine DRMO issued the proposed plan and interim ROD identifying the selected groundwater clean up alternative. The installation completed the EE/CA and issued a contract to remediate the PCB-contaminated soils and initiated the groundwater IRA. The Air Force engaged the community through the use of fact sheets, public meetings, and interactions with the North Keys Civic Association.

**FY07 IRP Progress**

Brandywine DRMO continued operations of the pump-and-treat system for TCE-contaminated groundwater. The system was temporarily turned off to dry the drainage area for the PCB removal action, during which the removal of 6,350 tons of impacted material was accomplished using an ecologically balanced approach. Sampling during the remedial design of the groundwater remedy determined that the chlorinated volatile organic compound plume had migrated farther off-property than was originally characterized. The Air Force acquired 3.57 acres of private property to target the DNAPL source zone. Design and initial construction of the groundwater remedy began and will continue as defined within the interim ROD. The installation coordinated with the Air Force Real Property Agency to declare the DRMO as excess property, and remedial efforts began to support future reuse.

**FY07 MMRP Progress**

The Air Force has identified no MMRP sites at the Brandywine DRMO.

**Plan of Action**

Plan of action items for Brandywine Defense Reutilization and Marketing Office are grouped below according to program category.

**IRP**

- Continue the construction of the groundwater remedy in FY08.
- Investigate potential DNAPL source areas in FY08-FY09.

**MMRP**

There are no MMRP actions scheduled for FY08 or FY09.

**FFID:** TX657172430300  
**Size:** 1,309 acres  
**Mission:** Serve as host to the 311 Human System Wing, the USAF's agent for human-centered research, development, acquisition, education, and operational support at individual and total force levels  
**HRS Score:** N/A  
**IAG Status:** None

**Contaminants:** Thinners, pesticides, hydraulics fluids, VOCs, SVOCs, PAHs, PCBs, metals, aviation and motor fuels, POLs, cleaning solvents, paints  
**Media Affected:** Groundwater, Surface Water, Sediment, Soil  
**Funding to Date:** \$ 8.2 million  
**Est. CTC (Comp Year):** \$ 3.1 million (FY 2011)  
**IRP Sites (Final RIP/RC):** 17 (FY2002)  
**MMRP Sites (Final RIP/RC):** None  
**Five-Year Review Status:** Completed



San Antonio, Texas

**Progress To Date**

Brooks Air Force Base (AFB) began as Kelly Field No. 5 in December 1917. In 1991, Brooks AFB was designated as the central location for the Air Force Center for Environmental Excellence (now known as the Air Force Center for Engineering and the Environment), one of several tenant organizations on base. In 1998, Air Force Materiel Command converted Brooks AFB from a center to the Air Force's only composite medical wing, the 311th Human Systems Wing. In 2002, the Air Force transferred Brooks AFB to the City of San Antonio and the installation became Brooks City Base as part of a demonstration project in which the City undertook infrastructure responsibilities in exchange for business opportunities and community development. In 2005, the BRAC Commission recommended closure of Brooks City Base. The installation completed a 5-year review in FY05.

Installation Restoration Program (IRP) sites and Areas of Concern (AOCs) have been identified at Brooks AFB. Of these sites, 1 AOC and 10 IRP sites have been closed and require no further action (NFA). Six AOCs have also been recommended for NFA. The remaining IRP site continues to undergo remediation. In FY05, the Air Force updated its Military Munitions Response Program (MMRP) site inventory. The cleanup progress at Brooks City Base for FY03 through FY06 is detailed below.

In FY03, the installation completed the third round of post-closure compliance monitoring and continued long-term operations, maintenance, and monitoring (O/M&M) of Fire Protection Training Area (FPTA) 2. The installation conducted a groundwater investigation of the oil-water separator at Building 1108. Landfill 007 received site closure approval from regulators for NFA.

In FY04, the installation continued long-term O/M&M of FPTA 2.

In FY05, the installation completed its first 5-year review for the remaining IRP site, FPTA 2. The Air Force updated its MMRP inventory. No MMRP sites were identified at this installation during the inventory development.

In FY06, the installation addressed regulatory concerns and made recommendations to close FPTA 2.

**FY07 IRP Progress**

Brooks AFB completed data gap investigation for input to the remedial action optimization evaluation for FPTA 2. The installation submitted the groundwater bio-stimulation optimization evaluation and design to regulators for review and comment. The installation also submitted a no further response action planned (NFRAP) report for FPTA 2 subsurface soil contamination closure to regulators for review and comment. The cost of completing environmental restoration has changed significantly due to changes in estimating criteria.

**FY07 MMRP Progress**

Brooks AFB has identified no MMRP sites at this installation.

**Plan of Action**

Plan of action items for Brooks City Base are grouped below according to program category.

**IRP**

- Obtain regulatory concurrence to implement the bio-stimulation design in FY08.
- Address regulatory concerns on the groundwater bio-stimulation optimization evaluation and design and the NFRAP report in FY08.
- Petition for site closure of FPTA 2 in FY09.

**MMRP**

There are no MMRP actions scheduled for FY08 or FY09.

<b>FFID:</b>	NC417302258000	<b>Contaminants:</b>	Battery acid, fuels, used oils, paints, thinners, PCBs, pesticides, metals, solvents, VOCs, SVOCs, radioactive materials
<b>Size:</b>	151,000 acres	<b>Media Affected:</b>	Groundwater, Surface Water, Sediment, Soil
<b>Mission:</b>	Provide housing, training facilities, logistical support, and administrative supplies for Fleet Marine Force units and other assigned units; conduct specialized schools and other training as directed	<b>Funding to Date:</b>	\$ 152.7 million
<b>HRS Score:</b>	36.84; placed on NPL in October 1989	<b>Est. CTC (Comp Year):</b>	\$ 119.2 million (FY 2057)
<b>IAG Status:</b>	FFA signed in February 1991	<b>IRP Sites (Final RIP/RC):</b>	177 (FY2012)
		<b>MMRP Sites (Final RIP/RC):</b>	14 (FY2017)
		<b>Five-Year Review Status:</b>	Completed



Jacksonville, North Carolina

**Progress To Date**

Camp Lejeune Marine Corps Base (MCB) provides housing, training facilities, logistical support, and administrative supplies for Fleet Marine Force units and other assigned units. The installation also provides specialized schools and other training. Contaminants released from past storage and disposal operations have migrated to a shallow aquifer, several surface water bodies, and a deep aquifer used for drinking water. The installation formed a technical review committee in FY88 and converted it to a Restoration Advisory Board in FY95. A community relations plan was completed in FY90. In February 1991, a federal facility agreement (FFA) was signed. Camp Lejeune MCB was placed on the NPL in October 1989. The installation placed its administrative record on the Web in FY00. The installation signed 5-year reviews in FY99 and FY05.

Investigations at Camp Lejeune MCB have identified 86 leaking underground storage tank sites. Since signing the FFA, operable units (OUs) have been identified as part of the Installation Restoration Program (IRP) requiring additional investigation or remediation. To date, the installation has completed 34 Records of Decision (RODs). In addition, Camp Lejeune MCB completed an interim final ROD for Site 69. The installation requested closure with no further action at 26 sites. In FY02, the Navy completed an inventory of Military Munitions Response Program (MMRP) sites. The cleanup progress at Camp Lejeune MCB for FY03 through FY06 is detailed below.

In FY03, the installation completed technology evaluations and treatability study (TS) work plans for Sites 35, 73, 78, and 86. Remedial investigations (RIs) were awarded and work plans completed to address the dissolved phase in groundwater for Sites 88 and 89. Pilot studies were initiated at Site 78 and work plans were completed for pilot studies at Sites 35, 73, and 86. Fieldwork was initiated at Sites 88 and 89.

In FY04, the installation initiated field pilot scale TSs at Sites 35, 73, and 86. Camp Lejeune MCB also completed the Phase II removal action for spills at Site 84, polychlorinated biphenyls (PCBs) at Building 45, as scheduled. The installation completed the Site 94 preliminary assessment and found evidence that further investigation was needed. The installation completed a 5-year review and submitted it for regulatory approval.

In FY05, Camp Lejeune MCB completed pilot scale TSs at Sites 35, 73, 78, and 86. The installation completed and approved the OU 4 final closeout report. The Navy signed the OU 6 ROD. The installation also completed a non-time critical removal action source removal at Site 88, the former base dry cleaners. The installation completed an RI/feasibility study (FS) for Site 94. The Navy finalized the 5-year review. The Navy identified MMRP sites at this installation and loaded the sites into the normalization of environmental data systems (NORM) database. The MMRP sites are listed as unexploded ordnance (UXO) for Sites 01, 02, 03, 04, 05, 06, 07, 08, 09, 10, 11, 12, and 13, and cover 1,049 acres.

In FY06, Camp Lejeune MCB completed RI/FS/remedial action (RA) plans for Sites 35, 89, 93, and 94. The installation completed an RA at Site 84. The Navy completed RODs for Sites 93 and 94. The Navy and Marine Corps continued site inspections (SIs) and identified all MMRP sites at this installation, and loaded them into the NORM database.

**FY07 IRP Progress**

Camp Lejeune MCB continued RI/FS/RA plan at Sites 35, 69, 73, 86, 88, 89, and 95. The installation signed interim RA completion reports for sites 36, 43, 44, and 54. The installation also signed a final RA completion report for Site 41, and implemented the RA for Site 93. The cost of completing environmental restoration has changed significantly due to technical issues.

Regulatory issues delayed RODs for Sites 35, 84, and 89. Technical issues delayed an optimization study on current pump-and-treat systems; however, the installation was awarded the optimization effort, and work is underway. Technical issues delayed the Phase II TS at Site 73.

**FY07 MMRP Progress**

The Navy and Marine Corps continued SIs previously awarded and initiated SIs for UXO Sites 3, 5, 6, 8, and 9.

**Plan of Action**

Plan of action items for Camp Lejeune Marine Corps Base are grouped below according to program category.

**IRP**

- Complete Phase II TS at Site 73 in FY08.
- Complete RI/FS for Sites 73 and 88 in FY08-FY09.
- Complete RODs for Sites 35, 73, and 84 in FY08-FY09.
- Complete ROD and RI for Site 89 in FY08-FY09.
- Complete pump-and-treat optimization study in FY08-FY09.

**MMRP**

- Complete ongoing SIs and initiate SIs for the remaining MMRP sites in FY08-FY09.

<b>FFID:</b>	CA917302353300	<b>Funding to Date:</b>	\$ 182.4 million
<b>Size:</b>	12,500 acres	<b>Est. CTC (Comp Year):</b>	\$ 105.0 million (FY 2020)
<b>Mission:</b>	Provide housing, training facilities, logistics support, and administrative support to Fleet Marine Force Units	<b>IRP Sites (Final RIP/RC):</b>	208 (FY2014)
<b>HRS Score:</b>	33.79; placed on NPL in November 1989	<b>MMRP Sites (Final RIP/RC):</b>	None
<b>IAG Status:</b>	FFA signed in October 1990	<b>Five-Year Review Status:</b>	Completed and planned
<b>Contaminants:</b>	Pesticides, herbicides, heavy metals, PCBs, VOCs, SVOCs		
<b>Media Affected:</b>	Groundwater, Surface Water, Sediment, Soil		



Oceanside, California

## Progress To Date

Camp Pendleton Marine Corps Base (MCB) provides housing, training facilities, logistics support, and administrative support to Fleet Marine Force Units. Environmental contamination at the installation resulted from maintenance of vehicles and equipment and support facilities, such as gas stations, hospitals, laundries, pest control services, and hobby shops. Sites at the installation include landfills, surface impoundments, pesticide storage areas, fire training areas, vehicle maintenance areas, and underground storage tanks (USTs). The installation was placed on the NPL in November 1989 after the herbicide 2,4,5-TP (Silvex) was detected in two groundwater wells used for drinking water. A federal facility agreement (FFA) was signed in October 1990. In 2005, the BRAC Commission recommended Camp Pendleton MCB for realignment. The installation formed a technical review committee (TRC) in FY91 and prepared a community relations plan in FY92, which was updated in FY01. The installation completed 5-year reviews in FY02, FY04, and FY07.

To date, the installation has completed four Records of Decision (RODs) since environmental restoration activities began. In FY02, the Navy completed an inventory of Military Munitions Response Program (MMRP) sites. The cleanup progress at Camp Pendleton MCB for FY03 through FY06 is detailed below.

In FY03, the installation completed corrective action plans (CAPs) for the Areas 13 and 22 gas stations and implemented an interim remedial action (RA) for the Area 62 gas station. The operation and maintenance (O&M) for remediation systems at nine sites and groundwater monitoring at UST sites in Areas 13, 21, 22, 24, 26, 43, and 53 continued. The installation closed out Sites 1E, 1F, and 2A. The installation held a two-day partnering session with parties of the FFA, including EPA, the California Regional Water Quality Control Board (RWQCB), and the California Department of Toxic Substances Control. The installation also conducted CERCLA training for the FFA team.

In FY04, the installation completed the Operable Unit (OU) 4 draft final feasibility study (FS) for Sites 1D, 1E1, 1H, and 30, and obtained agency concurrence. The installation successfully completed the OU 5 draft final remedial investigation (RI) for Sites 1A1, 6A, 21, 1111, and Area 12 (Site 13), and obtained

agency concurrence. The 5-year review for OUs 1 and 3 was completed and the remedies remain protective. The installation used innovative technology to conduct an accelerated site inspection for Site 1114 using the EPA Triad approach. The installation achieved no further action status for Site 6A. A Navy Tiger Team conducted an optimization review of OUs 4 and 5 sites to confirm validity of technical approaches. The installation used innovative techniques to develop OU 5 ecological risk assessment Tier 1 and human health risk assessment protocols. The installation also completed site assessments for USTs in Areas 11 and 21. Closure was achieved for 17 UST sites from the California RWQCB. The installation closed out Site 7 and finalized the cap closure report.

In FY05, Camp Pendleton MCB completed and obtained agency concurrence on the OU 4 proposed plan (PP) for Sites 1D, 1E1, and 30, documenting the remedial alternatives selected in the FS. The installation completed and obtained agency concurrence on the OU 5 FS for Sites 1A1, 6A, 1111, and Area 12 (Site 13). The installation completed the annual groundwater monitoring report and a conceptual site model for aqueous geochemistry for Site 7. The installation continued O&M for remediation systems at UST sites. Additionally, the installation received closure for 18 UST sites. The installation held a TRC meeting to update the expanded regulatory community on the Site 9 explanation of significant differences, OU 4 PP, and general program status.

In FY06, Camp Pendleton MCB completed fieldwork at Site 33 and initiated the combined RI/FS. The installation began fieldwork at Areas 22 and 23. The Navy also negotiated reduced sampling frequencies and a reduced number of analytes for Site 7 based on the large amount of data collected. The installation installed one monitoring well in the alluvium to monitor landfill gas migration in groundwater. An innovative approach to assessing trichloroethylene (TCE) in porewater, sediment, and fractured bedrock at Site 21 was developed. The installation received closure for 14 USTs. The installation continued O&M at UST sites in Areas 11, 13, 21, 24, 26, 31, 43, and 62.

## FY07 IRP Progress

Camp Pendleton MCB completed the remedial design (RD) for Sites 1D and 30, and the RI/FS for Site 33. All parties of the FFA signed the OU 4 ROD. The Navy completed an interim removal action at Site 1111. The installation prepared an explanation of significant differences for Site 1A to facilitate the RA. The Navy signed the final 5-year review for OU 1 (Site 9). The installation declared there are no land use controls for the OU 1 sites. The Navy completed fieldwork at Site 9 and Area 13. The installation received closure for 22 USTs and continued O&M at UST sites in Areas 11, 13, 21, 24, 26, 31, and 43.

Technical issues delayed landfill gas remediation for Site 7 and site assessments for Area 16 UST sites.

## FY07 MMRP Progress

The Navy has identified no MMRP sites at this installation.

## Plan of Action

Plan of action items for Camp Pendleton Marine Corps Base are grouped below according to program category.

### IRP

- Complete RI/FSs for Area 22/23 groundwater and Site 33 in FY08.
- Begin landfill gas remediation for Site 7 in FY08.
- Complete site assessment for Area 16 UST sites and obtain additional UST closures in FY08.
- Complete draft FS for Site 1115 in FY08.
- Complete RDs for two sites and RAs for five sites in FY08.

### MMRP

There are no MMRP actions scheduled for FY08 or FY09.

<b>FFID:</b>	TX657002404200	<b>Funding to Date:</b>	\$ 51.4 million
<b>Size:</b>	2,569 acres	<b>Est. CTC (Comp Year):</b>	\$ 5.8 million (FY 2010)
<b>Mission:</b>	Supported bomber, tanker, and other aircraft operations	<b>IRP Sites (Final RIP/RC):</b>	69 (FY2005)
<b>HRS Score:</b>	N/A	<b>MMRP Sites (Final RIP/RC):</b>	1 (FY2001)
<b>IAG Status:</b>	None	<b>Five-Year Review Status:</b>	Completed and planned
<b>Contaminants:</b>	POLs, JP-4 jet fuel, solvents, waste oils, TCE cleaners, low-level radioactive material, VOCs, SVOCs		
<b>Media Affected:</b>	Groundwater, Surface Water, Sediment, Soil		



Fort Worth, Texas

## Progress To Date

Carswell Air Force Base (AFB) was established in 1942 and supported flying operations for various aircraft throughout its history. In July 1991, the BRAC Commission recommended closure of Carswell AFB. The installation closed in September 1993, but approximately 1,830 acres were reactivated in FY94 after the 1993 BRAC Commission recommended its realignment as a Joint Reserve Base (JRB). The installation's airfield is also used by the adjacent Air Force Plant (AFP) 4, an aircraft manufacturing plant that opened in the 1940s. The Air Force Real Property Agency (AFRPA) is responsible for restoration activities on the BRAC property, and the Air Force Center for Engineering and the Environment (formerly Air Force Center for Environmental Excellence) is responsible for restoration activities on the JRB property. BRAC and Environmental Restoration (ER) account funds are used to implement the restoration program. Site types at the installation include underground storage tanks, landfills, fire training areas, waste burial areas, contaminated groundwater plumes, contaminated ditches, and oil-water separators. The primary contaminants are petroleum hydrocarbons in groundwater, surface water, sediment, and soil and trichloroethylene (TCE) in groundwater and soil. The installation formed a BRAC cleanup team (BCT) and a Restoration Advisory Board (RAB) in FY94. The Air Force completed the first 5-year review in FY06.

To date, all remedial actions (RAs) have been completed at sites on the golf course and the recreational vehicle family camping site. Remediation of sites located within the JRB property were transferred to the ER program. Of the total 492 acres not retained by DoD, 388 acres have been transferred to the local redevelopment authority (LRA) and 104 acres to other federal agencies, primarily the Federal Bureau of Prisons. DoD has retained approximately 1,830 acres for the JRB (Navy and Air Force) and 247 acres at an off-base weapons storage area (WSA) (Army). In FY04, the Air Force conducted an inventory of Military Munitions Response Program (MMRP) sites. The cleanup progress at Carswell AFB for FY03 through FY06 is detailed below.

In FY03, the final draft finding of suitability to transfer (FOST) and supplemental environmental baseline survey for transfer of the off-base WSA was completed.

In FY04, AFRPA reviewed current remedies installed to address an AFP 4 TCE plume that had migrated under portions of the Carswell AFB property and found the remedies sufficient to meet goals. An RA on the sanitary sewer system was initiated. A geophysical clearance survey of an explosive ordnance disposal (EOD) range at the off-base WSA identified areas that could contain ordnance items; ordnance items were visually identified along a creek bed adjacent to the EOD range area. A preliminary assessment and site inspection (PA/SI) indicated elevated radiation levels at a former storage bunker at the off-base WSA. AFRPA conducted an inventory of MMRP sites and identified MMRP sites on the BRAC portion of the installation.

In FY05, AFRPA investigated the radioactive contamination in the bunker at the off-base WSA and transferred approximately 37 acres to the LRA. In addition, completion of the focused feasibility study (FFS) for the AFP 4 TCE plume was coordinated with state and federal regulators. Regulators agreed to consider an explanation of significant differences (ESD) to an AFP 4 Record of Decision for the remedies proposed in the FFS, to support an operating properly and successfully (OP&S) determination and to the transfer of 187-acres to the LRA (Carswell Golf Course parcel). The installation discussed finalizing the completion of property transfer with the Navy. The sanitary sewer system RA was completed. Additionally, the Air Force awarded a contract for clearance of potential munitions and explosives of concern (MEC) at the off-base WSA EOD range. AFRPA began evaluating requirements at the identified MMRP sites. The RAB and BCT each met three times.

In FY06, federal regulators and the Air Force Safety Center (AFSC) accepted the PA/SI report for radiation at the off-base WSA; no further action is required at the site. Regulators approved the FFS for the AFP 4 TCE plume. The Air Force completed the first 5-year review and submitted it to regulators. Regulators approved closure of the sanitary sewer system. A draft ESD, draft FOST, and OP&S determination report for the AFP 4 TCE plume were submitted to regulators. Following regulator approval of the ESD, FOST, and OP&S determination report, the Carswell Golf Course parcel could be transferred. Discussions with the Navy to transfer property continued. MEC

clearance activities at the EOD range were completed and a report was prepared and submitted to the AFSC, DoD

Explosives Safety Board (DDESB), and regulators for review. The RAB and BCT each met three times.

## FY07 IRP Progress

Regulators approved the ESD for the AFP 4 TCE plume impacting the golf course area and the OP&S determination report, and concurred on the FOST providing for transfer of 187 acres to the LRA. Regulators also concurred on the draft final FOST for the public sale of the 247-acre off-base WSA property. However, the Army requested the WSA for use as an Army Reserve Center to meet BRAC 2005 requirements, and the Air Force agreed to the request. The WSA was transferred to the Army, followed by transfer of the remaining JRB acreage to the Navy. The cost of completing environmental restoration has changed significantly due to changes in estimating criteria.

The RAB and BCT each met three times.

## FY07 MMRP Progress

The AFSC and the DDESB approved the MEC Clearance Report for the off-base WSA EOD range.

## Plan of Action

Plan of action items for Carswell Air Force Base are grouped below according to program category.

### IRP

There are no IRP actions scheduled for FY08 or FY09.

### MMRP

There are no MMRP actions scheduled for FY08 or FY09.

<b>FFID:</b>	CA957002455100	<b>Funding to Date:</b>	\$ 164.5 million
<b>Size:</b>	2,777 acres	<b>Est. CTC (Comp Year):</b>	\$ 61.2 million (FY 2044)
<b>Mission:</b>	Trained tanker crews and serviced KC-135 stratotanker	<b>IRP Sites (Final RIP/RC):</b>	261 (FY2006)
<b>HRS Score:</b>	27.93; placed on NPL in July 1987	<b>MMRP Sites (Final RIP/RC):</b>	1 (FY2008)
<b>IAG Status:</b>	IAGs signed in 1989 and 2004	<b>Five-Year Review Status:</b>	Completed and planned
<b>Contaminants:</b>	Spent solvents, PCBs, POLs, pesticides, cyanide, cadmium, VOCs, SVOCs, metals		
<b>Media Affected:</b>	Groundwater and Soil		



Atwater, California

**Progress To Date**

In July 1991, the BRAC Commission recommended closure of Castle Air Force Base (AFB), which formerly supported B-52 bomber and KC-135 tanker training and operations. The installation closed in September 1995. EPA placed the installation on the NPL in July 1987, and the Air Force signed interagency agreements (IAGs) in 1989 and 2004. The Air Force has identified landfills, underground storage tanks (USTs), discharge areas, chemical disposal pits, fire training areas, fuel spill areas, and polychlorinated biphenyl (PCB) spill areas at the installation. Interim actions have included removing contaminated soil from the PCB spill areas, installing potable-water supply wells with filtration systems to remove trichloroethylene (TCE) from groundwater, and removing USTs. An Environmental Baseline Survey was completed in FY93. A BRAC cleanup team was formed in FY92 and a Restoration Advisory Board (RAB) formed in FY95. The installation completed 5-year reviews in FY99 and in FY04.

Sites found at the installation were grouped into three operable units (OUs): OU 1 (groundwater), OU 2 (groundwater), and the source control OU (SCOU). The Air Force has completed a comprehensive basewide (CB) Part 1 Record of Decision (ROD) for groundwater, which combined previous work done for OUs 1 and 2, and Castle Vista; a CB Part 2 ROD; and RODs 1, 2, and 3 for all SCOU sites. The installation closed seven sites and transferred all remaining property in FY07. In FY04, the Air Force conducted an inventory of Military Munitions Response Program (MMRP) sites. The cleanup progress at Castle AFB for FY03 through FY06 is detailed below.

In FY03, the installation completed both the SCOU ROD 2 and CB Part 2 remedial investigation and feasibility study. The installation issued a draft proposed plan for the remaining SCOU sites. The draft 5-year review was submitted.

In FY04, the installation received operating properly and successfully concurrence from EPA. The installation also completed the 5-year review and obtained EPA and State approval. Additionally, the installation shut down the Castle Vista groundwater treatment system. One remaining well exceeding the maximum contaminant level was converted to wellhead treatment. An IAG was signed for deed transfer of

approximately 1,330 acres for aviation use. All remaining soil vapor extraction (SVE) sites were closed except one. The Air Force conducted an inventory of MMRP sites. MMRP sites were identified at this installation.

In FY05, the installation completed the SCOU ROD 3. Remedial action began on the SCOU ROD 3 sites. Groundwater extraction and treatment systems continued to be effective. The installation conducted investigations at the weapons storage area. The Air Force began evaluating requirements at MMRP sites at this installation. RAB activities continued.

In FY06, the installation completed the CB Part 2 ROD and seven SVE closure reports, which were submitted to regulators. The Air Force finalized two finding of suitability to transfer documents that declared all of Castle AFB property ready for transfer. The Air Force evaluated, cleared, and closed one MMRP site.

**FY07 IRP Progress**

Castle AFB completed transfer of all remaining property (666 acres in 16 parcels). The Air Force received regulatory approval to close seven IRP sites, and operations at the last SVE sites were completed.

**FY07 MMRP Progress**

The installation completed all physical MMRP investigation work.

Administrative issues delayed closure of one MMRP site.

**Plan of Action**

Plan of action items for Castle Air Force Base are grouped below according to program category.

**IRP**

- Draft SVE closure report for submission to regulators in FY08.

**MMRP**

- Complete closure of remaining MMRP sites in FY08.
- Prepare documentation to participate in regional performance-based contract in FY08-FY09.

<b>FFID:</b>	FL417002247400	<b>Funding to Date:</b>	\$ 61.4 million
<b>Size:</b>	30,895 acres	<b>Est. CTC (Comp Year):</b>	\$ 11.4 million (FY 2026)
<b>Mission:</b>	Provide facilities, services, and material support for maintenance of Naval weapons and aircraft	<b>IRP Sites (Final RIP/RC):</b>	29 (FY2008)
<b>HRS Score:</b>	31.99; placed on NPL in November 1989	<b>MMRP Sites (Final RIP/RC):</b>	1 (FY2009)
<b>IAG Status:</b>	FFA signed in November 1990	<b>Five-Year Review Status:</b>	Completed and planned
<b>Contaminants:</b>	Waste fuel oil, solvents, heavy metals, halogenated aliphatics, phthalate esters, SVOCs, lead, VOCs		
<b>Media Affected:</b>	Groundwater, Surface Water, Sediment, Soil		



Jacksonville, Florida

**Progress To Date**

The Cecil Field Naval Air Station (NAS) supports the maintenance of Naval weapons and aircraft. In July 1993, the BRAC Commission recommended closure of this installation and relocation of its aircraft, personnel, and equipment to other stations. BRAC 1995 redirected associated bombing ranges to Jacksonville NAS, reducing the BRAC footprint to 17,225 acres. Operations that caused contamination include equipment maintenance, storage and disposal of fuel and oil, fire training, and training on target ranges. Investigations have identified 25 CERCLA sites, 10 major underground storage tank (UST) sites, 235 USTs, 250 BRAC grey sites, and 1 RCRA site. EPA placed the installation on the NPL in November 1989 and signed a federal facility agreement (FFA) in November 1990. A technical review committee was formed in FY94 and converted to a Restoration Advisory Board (RAB) in FY95. A BRAC cleanup team was formed in FY94. The installation completed 5-year reviews in FY00 and FY05.

To date, the installation has signed 24 Records of Decision (RODs) and 15 findings of suitability to transfer (FOSTs), totaling 17,043 transferred acres, and delisted approximately 16,584 acres from the NPL. The Navy completed an inventory of all (MMRP) sites. The cleanup progress at Cecil Field NAS for FY03 through FY06 is detailed below.

In FY03, Cecil Field NAS completed the remedial investigation and feasibility study (RI/FS) for Site 57/58. The installation implemented remedial actions (RAs) at Sites 21, 25, 32, 45, and 57/58, the jet engine test cell, and Tank 271. The installation completed 2 FOSTs for 18.2 acres. The installation achieved the groundwater cleanup criteria at Sites 7, 11, and Building 610, and regulators approved the no further action (NFA). The installation delisted 16,584 acres from the NPL. Additionally, Site 15 was placed in the MMRP.

In FY04, the installation signed RODs for Sites 25, 32, and 45, and completed land use control (LUC) remedial designs (RDs) for Site 45. Cecil Field NAS also completed operating properly and successfully (OP&S) at Sites 1, 2, 3, 8, 16, and 17. The installation initiated the RA at North Fuel Farm and Day Tank 1, and completed RAs at Sites 49 and 58. The Navy installed and began operating air sparging systems at Building 271 and the jet engine test cell. Cecil Field NAS completed the preliminary

assessment and site investigation for Site 59 and initiated the RI. The installation transferred 224 acres. The Florida Department of Environmental Protection issued a Hazardous and Solid Waste Amendments Corrective Action Permit to the installation.

In FY05, Cecil Field NAS completed the second 5-year review for all sites and completed RODs for Sites 21, 57, and 58. In addition, the facility signed a FOST that transferred 120.4 acres, and issued LUC RDs and OP&S documentation for Sites 1, 2, 3, 8, 16, and 17. The installation submitted draft OP&S documentation and draft LUC RDs for Sites 5, 21, 25, 32, 57, and 58 to regulators. Also, the facility completed Site 59 RI fieldwork and completed the Site 15 FS and proposed plan. The installation installed the North Fuel Farm air sparging system and continued long-term operations and long-term management (LTO/LTM) at 36 groundwater sites. The facility completed munitions and explosives of concern (MECs) investigation, and detonated found MECs at 20 acres of the North Apron Expansion site. The installation celebrated the 10-year anniversary of the RAB.

In FY06, Cecil Field NAS completed LTO/LTM at 36 sites. The installation completed RAs at Site 49. The Navy signed RODs at Sites 15 and 49 and approved OP&S documents and LUC RDs for 8 sites. The installation implemented the biostimulation/augmentation pilot study at Site 59. The installation completed MEC investigation and removal for 20 acres at Hangar 860 and two additional acres at the North Apron Expansion site.

**FY07 IRP Progress**

Cecil Field NAS signed three FOSTs totaling 216 acres. The installation monitored for natural attenuation at Sites 1, 2, 3, 5, 8, 16, 17, 21, 45, 36/37, 57, and 58. The cost of completing environmental restoration has changed significantly due to changes in estimating criteria.

Technical issues delayed RA implementation at Site 59.

**FY07 MMRP Progress**

Cecil Field NAS continued MEC investigation and removal at Hangar 860 and North Apron Expansion, and submitted after action reports.

**Plan of Action**

Plan of action items for Cecil Field Naval Air Station are grouped below according to program category.

**IRP**

- Complete two RODs for Sites 15 and 59 in FY08.
- Continue LTO/LTM at 36 sites in FY08.
- Prepare Site 25 NFA document in FY08.
- Remediate Site 59 in FY08.

**MMRP**

- Clear Building 365 and Hangar 860 following interim site approval in FY08.
- Excavate Site 15 following interim site approval in FY08.

<b>FFID:</b>	IL557002475700	<b>Est. CTC (Comp Year):</b>	\$ 47.2 million (FY 2015)
<b>Size:</b>	2,174 acres	<b>IRP Sites (Final RIP/RC):</b>	78 (FY2011)
<b>Mission:</b>	Served as technical training center and airport	<b>MMRP Sites (Final RIP/RC):</b>	13 (FY2010)
<b>HRS Score:</b>	Pending	<b>Five-Year Review Status:</b>	Underway and planned
<b>IAG Status:</b>	IAG signed in 1990		
<b>Contaminants:</b>	POLs, chlorinated solvents, metals, UXO, VOCs, SVOCs		
<b>Media Affected:</b>	Groundwater, Surface Water, Sediment, Soil		
<b>Funding to Date:</b>	\$ 111.8 million		



Rantoul, Illinois

**Progress To Date**

Chanute Air Force Base (AFB) was one of five Air Training Command Technical Training Centers providing specialized training for officers, airmen, and civilian employees of the Air Force and other DoD agencies. In 1988, the installation was recommended for closure. The installation signed a Memorandum of Understanding with the State of Illinois, and closure occurred in 1993. The Air Force signed an interagency agreement (IAG) in 1990. The majority of the installation has been leased to the Village of Rantoul for use as an airport. Sites identified at the facility include landfills, fire training areas, oil/water separators, a petroleum sludge disposal pit, jet engine test cells, and underground storage tanks (USTs). Interim actions have included removal of USTs, pipelines, and contaminated soil at UST sites; removal of sludge and contaminated soil at a sludge pit; and removal of oil-water separators. The Operable Unit (OU) 2 portion of the installation was proposed for the NPL in FY01. Both a BRAC cleanup team and a Restoration Advisory Board (RAB) were formed in FY94. In FY04, the community relations plan (CRP) was updated.

The installation has determined all Areas of Concern (AOCs) require no further action (NFA) or have been designated as Installation Restoration Program (IRP) sites. In FY04, the Air Force completed an inventory of all Military Munitions Response Program (MMRP) sites. The Air Force signed 11 NFA Records of Decision and transferred 781 acres to the Village of Rantoul in FY07. The cleanup progress at Chanute AFB for FY03 through FY06 is detailed below.

In FY03, the installation completed remedial investigation (RI) planning documents for OUs 1 and 2, including the basewide sampling and analysis plans, quality assurance project plans, and investigation work plans. RI field work began for OUs 1 and 2. Cap construction at Landfill (LF) 2 continued. The Illinois EPA (IEPA) approved closure of 111 former fuel storage tank sites. Background studies were conducted for soils, groundwater, surface water, and sediments. An operational history was prepared. An outfalls investigation was initiated to determine the source of contamination entering Salt Fork Creek (SD 032), and a hydrogeologic conceptual site model supporting the groundwater investigation was developed.

In FY04, the installation completed the initial investigation of Salt Fork Creek and the initial RI field activities at OUs 1 and 2. The investigations discovered contamination at 43 new IRP sites. Cap construction at LF 2 was completed. Operation and maintenance for LFs 1, 2, and 3 began. A treatability study of the leachate collection system at LFs 1, 2, and 3 was initiated. RI reports were initiated for multiple sites within OUs 1 and 2. The IEPA approved closure of 25 additional fuel storage tank sites. Planning documents and initial fieldwork were completed for the Water Towers and basewide polychlorinated biphenyl (PCB) investigation. Actions at multiple non-CERCLA sites progressed. The Air Force conducted an inventory of MMRP sites. MMRP sites were identified at this installation. The CRP was updated to indicate the status of remediation efforts and identify ongoing opportunities for community involvement.

In FY05, the installation continued the non-CERCLA PCB investigation and closure actions at multiple fuel storage tank sites. RI field activities identifying widespread soil contamination and localized groundwater impacts were substantially completed with limited sampling remaining in OU 2. Eleven AOCs and seven IRP sites achieved regulatory approved closure. The installation initiated 16 RI reports for sites in OUs 1 and 2 and submitted nine for regulatory review. The Air Force began evaluating requirements at MMRP sites at this installation. The installation expanded community outreach efforts and completed an effort to increase the visibility of the RAB, which resulted in a campaign to solicit new members and elect a community co-chair.

In FY06, the Air Force submitted 11 RI reports for 34 IRP sites in OUs 1 and 2 for regulatory review. The installation received regulatory concurrence for eight RI reports. Chanute AFB initiated a feasibility study (FS) for three IRP sites in OU 1. The installation prepared proposed plans (PPs) and Records of Decision (RODs) for six sites documenting the decision for NFA. The Air Force prepared a PP for one additional site where NFA is warranted. The installation continued closure of non-CERCLA sites on schedule. Chanute AFB continued to evaluate requirements at MMRP sites. The Air Force Safety Center concurred with the clearance of one suspected MMRP site.

**FY07 IRP Progress**

Chanute AFB transferred 781 acres to the Village of Rantoul, signed NFA RODs for 11 IRP sites, and prepared NFA PPs and RODs for 4 additional IRP sites. Five RI reports for 15 IRP sites were submitted for regulatory review, and concurrence was received. The Air Force prepared an FS for five IRP sites in OU 1 and conducted a treatability study for groundwater contaminated with volatile organic compounds (VOCs). The site investigation completion report for two fuel-related IRP sites was submitted for regulatory review. The IEPA concurred with corrective action plans for four former fuel storage tank sites, including one fuel-related IRP site and approved closure of one former fuel storage tank site. The Air Force initiated the procurement process for a performance-based contract (PBC) to complete restoration activities.

**FY07 MMRP Progress**

The installation initiated the MMRP site closure process for all MMRP sites.

**Plan of Action**

Plan of action items for Chanute Air Force Base are grouped below according to program category.

**IRP**

- Continue investigation report preparation and resolution of comments for IRP petroleum/oil/lubricant (POL) sites in FY08.
- Obtain regulatory concurrence on remaining RI reports in FY08.
- Complete FSs for three OU 1 IRP sites and six RODs in FY08.
- Complete remedial actions at former fuel storage tank sites in FY08.
- Implement groundwater treatment technology in FY08.
- Award PBC to complete restoration activities at the installation in FY08-FY09.

**MMRP**

- Obtain closure for all MMRP sites in FY08-FY09.

<b>FFID:</b>	SC417002434300, SC417002757100, SC417002267000, SC417002425800, SC417002256000	<b>Media Affected:</b>	Sediment, Soil, Groundwater
<b>Size:</b>	2,922 acres	<b>Funding to Date:</b>	\$ 55.9 million
<b>Mission:</b>	Repaired, maintained, and overhauled Navy ships	<b>Est. CTC (Comp Year):</b>	\$ 2.7 million (FY 2012)
<b>HRS Score:</b>	N/A	<b>IRP Sites (Final RIP/RC):</b>	125 (FY2009)
<b>IAG Status:</b>	None	<b>MMRP Sites (Final RIP/RC):</b>	2 (FY2007)
<b>Contaminants:</b>	POLs, solvents, petroleum hydrocarbons, SVOCs, VOCs, asbestos, cyanide, decontaminating agents, heavy metals, paints, PCBs, pesticides	<b>Five-Year Review Status:</b>	Planned



Charleston, South Carolina

**Progress To Date**

The Charleston Naval Complex (CNC) housed five major naval commands (Naval Shipyard, Naval Station, Naval Fleet and Industrial Supply Center, Fleet and Mine Warfare Training Center, and Naval Reserve Center) and several small organizations. In July 1993, the BRAC Commission recommended closure of CNC. CNC subsequently converted its technical review committee to a Restoration Advisory Board and formed a BRAC cleanup team (BCT) in 1994. Concurrently, the State of South Carolina formed a local redevelopment agency (LRA). Operational closure of the CNC occurred on April 1, 1996. A community relations plan was updated in FY01.

To date, the Navy identified solid waste management units (SWMU) and areas of concern (AOC) that required remedial action (RA). The BCT has completed 81 no further action (NFA) determinations, and 23 sites have received approval from the South Carolina Department of Health and Environmental Control (SCDHEC) for no further investigation with land use controls (LUCs). The remaining sites require long-term monitoring. The BCT has also identified 84 under- and above-ground storage tanks (UST/AST), of which 66 have received NFA concurrence. The Department of Navy (DON) divided transfer of Charleston NC's 2,922 acres into four phases, and all transfers are complete. The Navy completed the final economic development conveyance (EDC) consisting of 436 acres via early transfer in 2005. Other significant transfers include the sale of 24 acres of the Chicora Tank Farm in 2004, and transfer of 1,677 acres to other federal entities. The Navy has investigated an additional 16 new RCRA sites, 12 of which have received NFA concurrence from SCDHEC, 2 have NFA recommendations (AOCs 725 and 726), 1 is recommended for monitored natural attenuation (MNA) (AOC 722), and 1 has RA underway (AOC 723). The DON completed an inventory of Military Munitions Response Program (MMRP) sites in FY02. The cleanup progress at the CNC for FY03 through FY06 is detailed below.

In FY03, Navy submitted reports for SWMUs 9, 25, and 70 to SCDHEC, initiated a corrective measures study (CMS) for AOC 607, and completed the EDC Phase IV environmental baseline survey for transfer.

In FY04, Navy sold the 24 acres of the Chicora Tank Farm to a private entity. Additionally, Navy submitted an interim measure work plan for interim LUCs at Phase IV land parcels and implemented corrective actions for SWMU 196 and AOC 607.

In FY05, Navy received SCDHEC concurrence on the SWMU 9 presumptive remedy of LUCs. In addition, Navy completed two modifications to the RCRA Part B permit. The first modification designated the presumptive remedy for SWMU 9 and the second modification updated the status of 124 sites at CNC. The Navy transferred the final 436 acres to the LRA. The Navy performed a pilot study injection of lactate solution and submitted a work plan for full-scale operation at AOC 607. The Navy also engaged a biosparge/soil vapor extraction (SVE) system at SWMU 196. Navy implemented lactate injection system for source area treatment at SWMU 39. Navy received MNA concurrence from SCDHEC on SWMUs 25 and 70. Navy submitted a pilot study work plan for SWMU 166 with the recommendation to perform injections of lactate and emulsified oil substrate. Navy also submitted a CMS for SWMU 17 with the recommendation to perform air sparging, SVE, biosparging, and passive recovery. Additionally, Navy submitted CMS recommending MNA and lactate injection for AOCs 722 and 723, respectively.

In FY06, CNC continued MNA and long-term monitoring at 37 sites. The installation continued RAs at SWMUs 25, 39, 166 and 196, and AOCs 607 and 723. The Navy received concurrence from SCDHEC on the CMS for SWMU 17 and AOC 723.

**FY07 IRP Progress**

CNC submitted the final CMS (SWMU 166/163) for the original 133 RCRA sites along with 5 corrective measures implementation plans (CMIPs) (SWMUs 9, 25/70, 39, 196, and LUC sites). The installation conducted the fill placement for the landfill cover (SWMU 9), began installation of the air sparging/SVE system at SWMU 17, and continued RAs at SWMUs 25/70, 39, 196 and AOCs 607 and 723. The Navy performed additional investigations at SWMUs 166 and 163 in preparation of the implementation of the final RA. The installation received SCDHEC concurrence for MNA at AOC 722, and NFA concurrence for two additional UST/AST sites. The installation began a permit modification to update the

status of numerous sites and resumed the Zone J Waterfront RCRA facility investigation (RFI) studies. The cost of completing environmental restoration has changed significantly due to changes in estimating criteria.

The close out of all remaining petroleum sites was delayed due to regulatory issues.

**FY07 MMRP Progress**

CNC, in cooperation with SCDHEC, and South Carolina State Ports Authority conducted an Explosives Hazard Assessment and Mitigation Measures study. The study covers two MMRP sites and AOCs 501 and 503 and provides a rationale for SCDHEC to grant NFA to these 2 sites.

**Plan of Action**

Plan of action items for Charleston Naval Complex are grouped below according to program category.

**IRP**

- Complete CMIP for SWMUs 163 and 166 in FY08.
- Achieve remedy in place for all remaining sites in FY08.
- Close out several additional petroleum sites in FY08.
- Complete Zone J Waterfront RFI studies and reports in FY08.

**MMRP**

There are no MMRP actions scheduled for FY08 or FY09.

<b>FFID:</b>	NC417302726100	<b>Funding to Date:</b>	\$ 83.1 million
<b>Size:</b>	29,139 acres	<b>Est. CTC (Comp Year):</b>	\$ 80.1 million (FY 2040)
<b>Mission:</b>	Maintain and operate support facilities; provide services and materials for marine aircraft	<b>IRP Sites (Final RIP/RC):</b>	97 (FY2010)
<b>HRS Score:</b>	70.71; placed on NPL in December 1994	<b>MMRP Sites (Final RIP/RC):</b>	3 (FY2017)
<b>IAG Status:</b>	FFA signed in 2005	<b>Five-Year Review Status:</b>	Completed
<b>Contaminants:</b>	SVOCs, explosives, propellants, metals, VOCs, PCBs, petroleum hydrocarbons, solvents		
<b>Media Affected:</b>	Groundwater, Surface Water, Sediment, Soil		



Cherry Point, North Carolina

## Progress To Date

The Cherry Point Marine Corps Air Station (MCAS) provides services and materials for marine aircraft. The installation conducted an initial assessment study in FY83, which identified Installation Restoration Program (IRP) sites. A RCRA facility assessment performed in FY88 identified solid waste management units. The Navy and EPA agreed to perform additional investigations at 32 sites. A technical review committee was established in FY91 and two information repositories were established in FY93. EPA placed the installation on the NPL in December 1994. In 2005, the BRAC Commission recommended Cherry Point MCAS for realignment. The installation established a Restoration Advisory Board and completed a community relations plan in FY95. In FY03, the installation finalized the first 5-year review. The community involvement plan (CIP) was updated in FY05. The Navy signed a federal facility agreement (FFA) in FY05.

To date, the installation has completed eight Records of Decision (RODs). The installation has also identified underground storage tank (UST) sites. In FY02, the Navy completed an inventory of all Military Munitions Response Program (MMRP) sites. The cleanup progress at Cherry Point MCAS for FY03 through FY06 is detailed below.

In FY03, the installation finalized the Operable Unit (OU) 1 remedial investigation (RI) report, 5-year review, Site 85 site specific plan, and remedial action (RA) operation optimization study. Shutdown of OUs 2 and 3, Site 7 AS, and Site 10 soil vapor extraction systems was completed as recommended by the study. The installation submitted the Step 3A portion of OU 1 ecological risk assessment (ERA) and Phase I portion of the OU 14 RI to EPA and the State. The groundwater portion of the OU 1 feasibility study (FS) progressed. The Navy completed the hydrogen release compound pilot study at OU 1, Site 47. The OU 15 No Further Action (NFA) ROD was completed and signed by all parties. The State and EPA concurred that contaminants at OU 7 were UST-related and that further investigation as an installation restoration site was not warranted. The State approved the Site 29 corrective action plan (CAP). The installation commenced the long-term groundwater monitoring at OUs 2 and 3.

In FY04, the installation obtained concurrence for the NFA decision documents at Sites 35a and 85, completed the non-time critical soil removal at Site 29, and initiated groundwater monitoring in accordance with the Site 29 CAP. The installation finalized the FSs and initiated the RODs for OUs 4 and 13, and initiated the FS for OU 5. Cherry Point MCAS completed the Phase II RI at OU 14. The installation initiated a comprehensive voluntary groundwater monitoring program at OUs 1, 4, 5, and 13. An update to the CIP was drafted and submitted for review.

In FY05, Cherry Point MCAS finalized the FFA. The Navy finalized the OU 4 and OU 13 RODs and the OU 1 ERA. The installation finalized the OU 5 and OU 6 RIs and initiated the FSs. The installation completed the OU 14 Phase III RI fieldwork. An enhanced bioremediation treatability study within OU 1 was conducted to test treatment technologies for chlorinated volatile organic compounds (VOCs) in groundwater. The installation finalized the CIP.

In FY06, the Navy finalized the FS, proposed RA plan, and RODs for OUs 5 and 6, and began implementing their respective remedies. The installation initiated an update of the OU 1 RI to incorporate the latest human health screening criteria and the latest sampling results of the ERA.

## FY07 IRP Progress

Cherry Point MCAS completed a removal action at OU 6 (Site 12 Crash Crew Training Area) in accordance with the ROD. Contaminated soils were removed and long-term groundwater monitoring has been initiated at this site.

The installation was not able to complete RI and initiate the FS for OUs 1 and 14 as planned due to technical issues.

## FY07 MMRP Progress

Cherry Point initiated site investigations (SIs) at three MMRP sites.

## Plan of Action

Plan of action items for Cherry Point Marine Corps Air Station are grouped below according to program category.

### IRP

- Finalize the RI and initiate the FS for OU 14 in FY08.
- Complete removal actions at OU 1 (Tributary 2) in FY08.
- Complete supplemental investigations and FSs at OU 1, Sites 14, 16/83, 17 and 18 in FY08.
- Finalize OU 1 RI in FY08-FY09.
- Initiate OU 1 FS in FY09.

### MMRP

- Complete SI at Sites 1, 2 and 3 and develop communication plan to inform stakeholders of anticipated actions in FY08.

<b>FFID:</b>	IL557122427200	<b>Funding to Date:</b>	\$ 9.8 million
<b>Size:</b>	274 acres	<b>Est. CTC (Comp Year):</b>	\$ 0.2 million (FY 2005)
<b>Mission:</b>	Supported Air Force Reserve and Air National Guard flying operations	<b>IRP Sites (Final RIP/RC):</b>	19 (FY2005)
<b>HRS Score:</b>	N/A	<b>MMRP Sites (Final RIP/RC):</b>	2 (FY2002)
<b>IAG Status:</b>	None	<b>Five-Year Review Status:</b>	Underway and planned
<b>Contaminants:</b>	SVOCs, PNAs, petroleum hydrocarbons, POLs, TCE, heavy metals, VOCs		
<b>Media Affected:</b>	Groundwater and Soil		



Chicago, Illinois

## Progress To Date

Chicago O'Hare International Airport (IAP) Air Reserve Station (ARS) began operations as an aircraft assembly plant and later supported Air Force Reserve and Air National Guard flying operations. Environmental cleanup studies began at the installation in 1983. In 1993, the BRAC Commission recommended closure of the station. This decision was modified by the 1995 BRAC Commission. In 1996, the Air Force and City of Chicago signed a purchase agreement. The City paid for replacement facilities to be constructed at Scott Air Force Base, Illinois, in exchange for the Chicago O'Hare IAP ARS property. The installation closed in July 1999. Site types identified at the installation include underground storage tanks (USTs), landfills (LFs), fuel spills, aboveground storage tanks, a fire training area, and a low-level radioactive waste disposal area. Primary contaminants are petroleum hydrocarbons, metals, polynuclear aromatic hydrocarbons, volatile organic compounds (VOCs), and semivolatile organic compounds (SVOCs), which have been released into soil and groundwater. Interim remedial actions have included removal of 19 USTs, contaminated soil, and low-level radioactive waste. In FY97, a stationwide Environmental Baseline Survey (EBS) was completed and in FY98 parcel-specific EBSs were completed for Parcels 2, 3, and 3A. The installation formed a Base Closure and Transition Team and a BRAC cleanup team (BCT). The Air Force completed the first 5-year review in FY07.

Environmental cleanup studies have identified Installation Restoration Program (IRP) sites, areas of concern, and Military Munitions Response Program (MMRP) sites. A basewide Record of Decision (ROD) and the LF 001 ROD have been completed. All property (274 acres) at the installation has been transferred to the City of Chicago. In FY04, the Air Force conducted an inventory of MMRP sites. The cleanup progress at Chicago O'Hare IAP ARS for FY03 through FY06 is detailed below.

In FY03, the basewide ROD and subsequent deed addressed all areas except for LF 001. The BCT developed a risk assessment for LF 001, and the Air Force implemented a land use control/ institutional control (LUC/IC) management plan.

In FY04, the Air Force completed a human health risk assessment and drafted a feasibility study and proposed plan

for LF 001 in preparation for the final ROD. An EBS for the remaining property was completed, and the LF 001 remedy was selected. The Air Force conducted an inventory of MMRP sites. MMRP sites were identified at this installation.

In FY05, the Air Force completed the LF 001 ROD and the finding of suitability to transfer for the remaining four acres, which were transferred to the City of Chicago. The installation attained the last remedy in place milestone. The Air Force began evaluating requirements at MMRP sites at this installation. BCT activities continued.

In FY06, LUC/IC oversight continued. The evaluation of MMRP sites indicated that no explosive safety hazards exist.

## FY07 IRP Progress

Chicago O'Hare IAP completed the first 5-year review report. Annual LUC/IC compliance inspections were conducted, and no compliance variances were found. The cost of completing environmental restoration has changed significantly due to changes in estimating criteria.

## FY07 MMRP Progress

Administrative issues delayed closure actions for the identified MMRP sites.

## Plan of Action

Plan of action items for Chicago O'Hare International Airport Air Reserve Station are grouped below according to program category.

### IRP

- Continue to monitor LUC/IC compliance in FY08-FY09.

### MMRP

- Complete required closure actions for identified MMRP sites in FY08.

<b>FFID:</b>	NE721382023400	<b>Est. CTC (Comp Year):</b>	\$ 30.7 million (FY 2024)
<b>Size:</b>	4,020 acres	<b>IRP Sites (Final RIP/RC):</b>	66 (FY2004)
<b>Mission:</b>	Manufactured ammunition	<b>MMRP Sites (Final RIP/RC):</b>	1 (FY2013)
<b>HRS Score:</b>	51.3; placed on NPL in July 1987	<b>Five-Year Review Status:</b>	Completed
<b>IAG Status:</b>	FFA signed in July 1990		
<b>Contaminants:</b>	Explosives and heavy metals		
<b>Media Affected:</b>	Soil and Groundwater		
<b>Funding to Date:</b>	\$ 62.5 million		



Hall County, Nebraska

**Progress To Date**

Cornhusker Army Ammunition Plant (AAP) is a former ammunition manufacturing facility. In FY83, the Army identified an explosives-contaminated groundwater plume migrating off site. The off-site contamination affected more than 250 private residences in Grand Island. In FY86 and FY95, the Army extended the Grand Island municipal water distribution system to all affected residences. In FY86, the Army removed and incinerated 40,000 tons of explosives-contaminated soil from sumps and leaching pits. EPA placed the installation on the NPL in July 1987 because of explosive liquid waste contaminants released during the manufacturing process to sumps, cesspools, and leaching pits, and disposal of solid waste in landfills and burning areas. The community formed a local redevelopment authority in FY89. The Army and EPA signed a federal facility agreement (FFA) in July 1990. In FY94, the Army performed an interim remedial action, removing an additional 5,000 tons of explosives-contaminated soil. In FY01, the Army completed the transfer of disposal responsibility for Cornhusker AAP from the Army Materiel Command to the U.S. Army Corps of Engineers. The Army completed a 5-year review in FY04.

An initial assessment study completed in FY80 identified 65 contaminant sources at the installation. In FY99, the results of long-term groundwater monitoring of the off-post contamination provided data to support monitored natural attenuation of the explosive contaminants. In FY03, the Army completed an inventory of Military Munitions Response Program (MMRP) sites. To date, the installation has completed five Records of Decision. The cleanup progress at Cornhusker AAP for FY03 through FY06 is detailed below.

In FY03, USACE began remedial investigations and remedial actions (RAs) for an aboveground storage tank (AST) in the shop area. Long-term operations and long-term management (LTM) continued at Operable Unit (OU) 1 and LTM continued at OU 3. The Army completed an inventory of closed, transferred, and transferring ranges. The range sites with unexploded ordnance, discarded military munitions, or munitions constituents comprise the MMRP sites at Cornhusker AAP. Explosives safety actions included the flashing of Load Line 2. The Army discovered explosives contamination in the Nitrate

Area buildings and reprioritized the explosives safety removal schedule to accelerate real estate disposal.

In FY04, the installation completed RA for the AST site in the shop area and continued RA-operation (RA-O) of the explosives-contaminated groundwater plume at OU 1. The installation submitted the final CERCLA 5-year review. The Army discovered additional MMRP sites during the clean certification process. The Army transferred the former OU 5 Burning Grounds to the MMRP. Explosives safety actions included the flashing of Load Line 3 and demolition of boiler houses at Load Lines 2 and 3.

In FY05, the installation continued RA-O at OU 1. The Army initiated chemical characterization of asbestos-contaminated debris pits and residual explosives-contaminated soils beneath former concrete floor slabs and ramps in Load Lines 1 and 2. The installation initiated an installationwide site inspection (SI) under the MMRP.

In FY06, the installation continued RA-O of the OU 1 groundwater explosives plume and LTM at OU 3 and 5. The Army performed chemical characterization and the removal of contaminated soils at Load Lines 1 and 2. The installation completed the explosives safety removal and certification of Load Line 4 and initiated an explosives safety submission for six additional areas. Cornhusker AAP completed the installationwide SI for MMRP. An engineering evaluation and cost analysis (EE/CA) and Action Memorandum was initiated for future accelerated interim remedial action at the OU 5 open burning/open detonation ground.

**FY07 IRP Progress**

Cornhusker AAP performed chemical characterization and removal of contaminated soils at Load Line 4. The installation accelerated RA-O of the OU 1 groundwater explosives plume with in situ amendments (Newman Zone/West Blend). The cost of completing environmental restoration has changed significantly due to technical issues.

**FY07 MMRP Progress**

The installation initiated the performance based contract for full remediation of discarded military munitions and environmental contaminants of concern.

**Plan of Action**

Plan of action items for Cornhusker Army Ammunition Plant are grouped below according to program category.

**IRP**

- Gain approval for No DoD Action Indicated (NDAI) and public transfer at four sites in FY08.
- Gain approval of the Freon SI (former Burning Ground) for NDAI and public transfer in FY08.
- Remove explosives-contaminated soils at Load Line 4 and transfer property in FY08.
- Continue to accelerate RA-O of the OU 1 groundwater explosives plume with in situ amendments (Newman Zone/West Blend) in FY08.

**MMRP**

- Gain approval for interim remedial action in EE/CA in FY08.
- Develop Performance Based Acquisition strategy in FY08.
- Initiate Performance Based Acquisition awards in FY09.

<b>FFID:</b>	TX617002278600	<b>Est. CTC (Comp Year):</b>	\$ 6.6 million (FY 2007)
<b>Size:</b>	832 acres	<b>IRP Sites (Final RIP/RC):</b>	47 (FY2007)
<b>Mission:</b>	Served as a pilot training center	<b>MMRP Sites (Final RIP/RC):</b>	2 (FY2005)
<b>HRS Score:</b>	N/A	<b>Five-Year Review Status:</b>	Planned
<b>IAG Status:</b>	None		
<b>Contaminants:</b>	VOCs, SVOCs, POLs, solvents, asbestos, heavy metals		
<b>Media Affected:</b>	Groundwater, Surface Water, Sediment, Soil		
<b>Funding to Date:</b>	\$ 82.6 million		



Dallas, Texas

**Progress To Date**

In July 1993, the BRAC Commission recommended closure of the Dallas Naval Air Station (NAS), which served as a pilot training center. The installation closed September 30, 1998. After the base was closed, operations were transferred to Fort Worth NAS. A number of the industrial operations that supported the installation’s military mission contributed to contamination. For investigation of environmental conditions, the installation was divided into six areas, categories A through F, based on operations and property ownership. In FY94, a BRAC cleanup team (BCT) was formed, and a BRAC cleanup plan was completed. The installation formed a Restoration Advisory Board (RAB), which was adjourned in FY05, and established an information repository. A local redevelopment authority was established and adopted a land reuse plan. During FY96, the installation completed a community relations plan.

The installation completed a RCRA facility assessment, which identified solid waste management units (SWMUs) and areas of concern. To date, Installation Restoration Program (IRP) sites have been identified at this installation requiring further action. The Navy completed an inventory of all Military Munitions Response Program (MMRP) sites in FY02. The cleanup progress at Dallas NAS for FY03 through FY06 is detailed below.

In FY03, interim actions at one groundwater site continued. The rubble landfill and the Texas Air National Guard pond sediments were excavated and disposed of at an off-site landfill. Dallas NAS excavated soil across the installation that exceeded state closure criteria and disposed of it off-site as part of the source removal actions. The installation continued long-term management (LTM) of the remedy for the main fuel farm and conducted negotiations with the regulatory agencies to accept monitored natural attenuation (MNA) as the preferred remedy for groundwater contaminants. A RCRA permit renewal and compliance plan application were completed for the remaining groundwater plumes. The second MMRP site was remediated in conjunction with the excavation and disposal activity at the Rubble Landfill. The BCT conducted team meetings and various site visits of ongoing remediation.

In FY04, the installation completed soil remediation, and continued MNA on groundwater plumes. The installation also implemented enhanced MNA pilot studies. Dallas NAS initiated BCT review of closure documents and final regulatory approval.

In FY05, the installation continued investigation and MNA on the groundwater plumes. The installation submitted final response action plans. In addition, the installation completed response action completion reports for 84 soil sites and submitted them for review. Long-term operation (LTO)/LTM continued for the remaining sites. The RAB adjourned, due to the specified environmental cleanup standards and funding provided in the settlement agreement between the City of Dallas and the Navy.

In FY06, Dallas NAS completed site restoration and groundwater excavation at SWMUs 18 and 85 by engineering maintenance and control. The installation continued LTO/LTM for remaining sites. The Navy completed MNA remediation at SWMU 35 and began the report.

**FY07 IRP Progress**

Dallas NAS submitted a groundwater MNA report, conducted installationwide groundwater sampling and MNA at 13 sites within a groundwater contamination plume, and initiated an oil/water separator removal at Building 1424. The installation also submitted a Response Action Completion Report for SWMU 35 groundwater and an annual Response Action Effectiveness Report (RAER) for 13 groundwater plume areas. The cost of completing environmental restoration has changed significantly due to changes in estimating criteria.

**FY07 MMRP Progress**

The Navy has identified two MMRP sites at this installation.

**Plan of Action**

Plan of action items for Dallas Naval Air Station are grouped below according to program category.

**IRP**

- Submit revised response action plans for SWMUs 136 and 138 in FY08.
- Conduct semi-annual basewide groundwater sampling for 13 groundwater plumes in FY08.
- Complete annual RAER for 13 groundwater plume areas in FY08.
- Complete closure activities report for oil/water separator at Building 1424 in FY08.

**MMRP**

There are no MMRP actions scheduled for FY08 or FY09.

<b>FFID:</b>	RI117002203600	<b>Funding to Date:</b>	\$ 58.8 million
<b>Size:</b>	1,285 acres	<b>Est. CTC (Comp Year):</b>	\$ 10.6 million (FY 2011)
<b>Mission:</b>	Provided mobilization support to Naval Construction Forces	<b>IRP Sites (Final RIP/RC):</b>	25 (FY2011)
<b>HRS Score:</b>	34.52; placed on NPL in November 1989	<b>MMRP Sites (Final RIP/RC):</b>	None
<b>IAG Status:</b>	FFA signed in March 1992	<b>Five-Year Review Status:</b>	Completed
<b>Contaminants:</b>	Heavy metals, PCBs, pesticides, petroleum hydrocarbons, POLs, VOCs, SVOCs		
<b>Media Affected:</b>	Groundwater, Sediment, Soil		



Davisville, Rhode Island

**Progress To Date**

The Davisville Naval Construction Battalion Center provided mobilization support to Naval Construction Forces. Site types at the installation include landfills, solvent storage and disposal areas, transformer storage areas, spill areas, underground storage tanks, and fire training areas. Contaminants include solvents, polychlorinated biphenyls (PCBs), petroleum/oil/lubricants (POLs), and pesticides. The installation established an administrative record and information repository in FY89. EPA placed the installation on the NPL in November 1989. In July 1991, the BRAC Commission recommended closure of the installation. Construction battalion training and mobilization activities were transferred to the Naval Construction Battalion Center, Gulfport, Mississippi, and to Naval Construction Battalion Center, Port Hueneme, California. The Navy signed a federal facility agreement (FFA) in March 1992. The installation closed in April 1994. In FY94, the installation's technical review committee was converted to a Restoration Advisory Board and a BRAC cleanup team (BCT) was formed. In FY95, a BRAC cleanup plan was completed, and in FY96 and FY97, respectively, the BCT prepared BRAC business plans and a community relations plan. In FY03, the installation completed a 5-year review.

The installation has completed three Records of Decision (RODs). In addition, there have been five No Further Action RODs completed by the installation. The Navy completed an inventory of all Military Munitions Response Program (MMRP) sites. The cleanup progress at Davisville Naval Construction Battalion Center for FY03 through FY06 is detailed below.

In FY03, the installation completed the draft Site 16 Phase II remedial investigation (RI). Long-term management (LTM) continued at Sites 3, 7, 9, and Environmental Baseline Survey (EBS) Site 21. The installation completed a 5-year review.

In FY04, the installation issued a finding of suitability to transfer for Site 21 (Parcel 3) and initiated pilot study fieldwork and Phase II RI fieldwork at Site 16. The Navy completed screening level ecological risk assessments for Site 16. LTM continued at Sites 3, 7, 9, and EBS Site 21.

In FY05, Davisville Naval Construction Battalion Center continued LTM at Sites 3, 7, 9, and the EBS Site 21. The installation also continued supplemental Phase II RI fieldwork at Site 16.

In FY06, Davisville Naval Construction Battalion Center continued LTM at Sites 7, 9, and EBS Site 21. The Navy initiated the Phase III RI work plan at Site 16. The installation reached a settlement with the State of Rhode Island concerning a natural resource damage claim. The Navy submitted delinquent long-term monitoring and annual inspection reports to regulators.

**FY07 IRP Progress**

The Davisville Naval Construction Battalion Center continued interim groundwater sampling at Site 3 and coordinated a synoptic sampling event between the Navy's Site 3 and the U.S. Army Corps of Engineers NIKE PR-58 FUDS site. The installation conducted two sampling rounds for Site 7. For Site 16, the Phase III RI work plan was completed and fieldwork was initiated. The installation completed three rounds of monitoring at Site 9. The cost of completing environmental restoration has changed significantly due to changes in estimating criteria.

The Site 7 revision to the conceptual site model (CSM) and source area investigation was delayed due to funding issues. The Site 16 pilot study fieldwork was delayed due to technical issues.

The Navy conducted four RAB meetings and seven onsite BRAC cleanup team meetings.

**FY07 MMRP Progress**

The Navy has identified no MMRP sites at this installation.

**Plan of Action**

Plan of action items for Davisville Naval Construction Battalion Center are grouped below according to program category.

**IRP**

- Complete Site 16 RI and feasibility study (FS) in FY08-FY09.
- Complete Site 3 FS in FY08-FY09.
- Complete revision of Site 7 CSM and source area investigation FY08-FY09.
- Continue LTM of Sites 7, 9, and EBS Site 21 in FY08-FY09.

**MMRP**

There are no MMRP actions scheduled for FY08 or FY09.

<b>FFID:</b>	TN497152057000	<b>Funding to Date:</b>	\$ 64.9 million
<b>Size:</b>	642 acres	<b>Est. CTC (Comp Year):</b>	\$ 19.8 million (FY 2020)
<b>Mission:</b>	Stored and distributed clothing, food, medical supplies, electronic equipment, petroleum products, and industrial chemicals	<b>IRP Sites (Final RIP/RC):</b>	116 (FY2011)
<b>HRS Score:</b>	58.06; placed on NPL in October 1992	<b>MMRP Sites (Final RIP/RC):</b>	None
<b>IAG Status:</b>	FFA signed in March 1995	<b>Five-Year Review Status:</b>	Completed
<b>Contaminants:</b>	POs, chlorinated solvents, pesticides, heavy metals, SVOCs		
<b>Media Affected:</b>	Groundwater and Soil		



Memphis, Tennessee

**Progress To Date**

EPA placed Defense Distribution Depot (DDD) Memphis on the NPL in October 1992. In FY93, the installation formed a Restoration Advisory Board (RAB). DDD Memphis, EPA, and Tennessee Department of Environment and Conservation (TDEC) signed a federal facility agreement (FFA) in March 1995. In September 1995, the BRAC Commission recommended closure of DDD Memphis. In FY96, DLA completed a BRAC cleanup plan that serves as the Site Management Plan and contains the master schedule, which has been updated annually. Mission activities ceased at DDD Memphis in FY97. All underground storage tanks (USTs) were removed or closed in place. In FY98, DDD Memphis developed a community relations plan. In FY01, the RAB obtained a Technical Assistance for Public Participation (TAPP) grant. In FY02, the RAB's TAPP contract was completed. The installation completed its first 5-year review in FY03.

DDD Memphis covers approximately 642 acres divided into two areas: the Main Installation (MI) and Dunn Field (DF). The installation divided all CERCLA sites and the remaining USTs into four operable units. An interim remedial action (RA) Record of Decision (ROD) for DF groundwater was signed in FY96. RODs for MI and DF were signed in FY01 and FY04, respectively. The cleanup progress at DDD Memphis for FY03 through FY06 is detailed below.

In FY03, DDD Memphis finalized the DF remedial investigation, two feasibility studies, a proposed plan and conducted a public comment period for the DF ROD. DDD Memphis completed the DF Site 60 removal action, installed additional monitoring wells to determine the extent of increased volatile organic compound concentrations downgradient of DF, completed the MI enhanced bioremediation treatment (EBT) pilot test, completed the DF disposal sites pre-design investigation and work plan, completed the former pentachlorophenol dip vat additional sampling work plan and fieldwork, completed the first 5-year review, and conducted a public meeting for the DF ROD. DDD Memphis also submitted findings of suitability to transfer (FOST) 3 for approximately 357 acres of the MI for public comment. DLA approved an ordnance and explosives statement of clearance for the Military Munitions Response Program (MMRP).

In FY04, DLA, EPA, and TDEC signed the DF ROD. The Department of the Army signed FOST 3. DDD Memphis completed the MI and the DF disposal sites remedial design (RD), submitted FOST 4 for approximately 41 acres at DF for public comment, and conducted the DF source areas pilot study of soil vapor extraction (SVE) and zero-valent iron (ZVI). The BRAC cleanup team initiated early implementation of the selected remedy (EISR) from the DF ROD to address contaminant concentrations downgradient from the proposed off-site permeable reactive barrier (PRB) location. DDD Memphis conducted a partnering session to assist the transition from the RD contractor to the RA contractor.

In FY05, DDD Memphis completed the FOST 4 public comment period, with the Army signature. DDD Memphis completed the MI RA work plan and received EPA and TDEC approval. DDD Memphis began the DF disposal sites RA. DDD Memphis completed the EISR fieldwork and submitted and received EPA and TDEC approval of the EISR RA Completion Report (RACR). DDD Memphis completed the MI land use control implementation plan (LUCIP) annual inspection.

In FY06, the Army signed one deed and one letter of assignment to the Department of the Interior (DOI) for the FOST 3 property. The Army also signed one deed for a portion of the FOST 4 property and offered the remaining property for public sale. DDD Memphis completed the DF disposal sites RA, and submitted and received EPA and TDEC approval of the disposal sites RACR. DDD Memphis completed construction and initiated the MI RA EBT. The installation began preparing the DF source areas RD and completed additional source areas RD investigation fieldwork regarding the effectiveness of SVE on the loess formation. DDD Memphis also began preparing the DF off-depot groundwater RD for which the installation completed the ZVI PRB implementation study work plan and fieldwork. DDD Memphis completed the MI LUCIP annual inspection.

**FY07 IRP Progress**

DDD Memphis completed the DF source areas RD, the two associated RA work plans, and construction of Phase I of the source areas RD (fluvial SVE). DOI signed a deed for the FOST 3 golf course property. The Army completed the public sale for

the remaining FOST 4 property. DDD Memphis continued the MI RA and completed the MI LUCIP annual inspection. The installation conducted the 5-year review. DDD Memphis, EPA, and TDEC agreed to amend the DF ROD based on results of the ZVI PRB study. DDD Memphis completed a revised DF proposed plan and DF ROD amendment, and submitted to EPA and TDEC for review. The cost of completing environmental restoration has changed significantly due to technical and regulatory issues and changes in estimating criteria.

Technical issues delayed the DF off-depot groundwater RD. Regulatory issues delayed the completion of the 5-year review report.

The installation conducted two RAB meetings and one public briefing for DF source areas RD.

**FY07 MMRP Progress**

DLA has identified no MMRP sites at this installation.

**Plan of Action**

Plan of action items for Defense Distribution Depot Memphis are grouped below according to program category.

**IRP**

- Complete DF ROD amendment and DF off-depot groundwater RD in FY08.
- Initiate DF off-depot groundwater RA in FY08.
- Initiate excavation, transportation, disposal, and construction of thermal-enhanced SVE in the loess in FY08.
- Complete 5-year review in FY08.
- Complete enhanced reduction dechlorination microcosm study and an intermediate aquifer investigation in FY08.

**MMRP**

There are no MMRP actions scheduled for FY08 or FY09.

<b>FFID:</b>	CA997152083200	<b>Funding to Date:</b>	\$ 73.1 million
<b>Size:</b>	724 acres	<b>Est. CTC (Comp Year):</b>	\$ 120.9 million (FY 2047)
<b>Mission:</b>	Receive, store, and distribute supplies, materials, and equipment	<b>IRP Sites (Final RIP/RC):</b>	152 (FY2009)
<b>HRS Score:</b>	42.24; placed on NPL in July 1987	<b>MMRP Sites (Final RIP/RC):</b>	None
<b>IAG Status:</b>	IAG signed in March 1989	<b>Five-Year Review Status:</b>	Completed
<b>Contaminants:</b>	VOCs, heavy metals, POLs, TCE, pesticides		
<b>Media Affected:</b>	Groundwater and Soil		



Lathrop, California

## Progress To Date

Defense Distribution Depot (DDD) San Joaquin, Sharpe Facility began operation in 1941 as a supply and maintenance center. Activities at the property have included overhauls, repairs, painting, paint stripping, metal finishing, and degreasing of aircraft and heavy construction equipment. Investigations have identified contaminated and potentially contaminated groundwater plumes, soil, and building sites. EPA placed the installation on the NPL in July 1987, and the property signed an interagency agreement (IAG) in March 1989 with EPA and California regulatory agencies. The installation developed a community relations plan (CRP), which was updated in FY03. The installation completed a 5-year review in FY04.

The installation covers approximately 724 acres. Of the contaminated sites identified, 141 have achieved response complete (RC). Two Records of Decision (RODs) have been signed to date: the Operable Unit (OU) 1 groundwater remedy in FY93, and the OU 2 basewide remedy in FY96. The cleanup progress at DDD San Joaquin, Sharpe Facility for FY03 through FY06 is detailed below.

In FY03, the installation completed an update of the CRP. The former underground storage tanks sites preferred alternatives report was finalized. The report recommended no further action at 14 sites and monitored natural attenuation at 3 sites. The installation continued OU 1 groundwater remedial process optimization (RPO). The installation submitted a draft final 5-year review report.

In FY04, the installation completed the final 5-year review report, and continued OU 1 groundwater RPO. The installation also developed an internal Response Completion and Resource Management Plan (RCP), formerly known as the exit strategy, for the final closeout report and delisting.

In FY05, DDD San Joaquin, Sharpe Facility completed the RCP, which outlined the installation's plan for closure, and increased the number of sites achieving RC. EPA and state regulatory agencies concurred with the plan. The installation continued operations and maintenance (O&M), monitoring, and RPO of groundwater treatment systems and the groundwater monitoring program.

In FY06, DDD San Joaquin, Sharpe Facility began the process of updating the CRP. The installation continued O&M, monitoring, and optimization of groundwater treatment systems, and the groundwater monitoring well network. The installation started implementation of the RCP for alternating technology studies. The installation started the work plan for completion of OU 2 Site S 26 remedial action (RA).

### FY07 IRP Progress

DDD San Joaquin, Sharpe Facility completed the update of the CRP and OU 2 Site S 26 RA. The installation continued groundwater treatment and monitoring well network O&M, monitoring, and RPO. USACE continued the implementation of RCP, including preparation and submission of alternate RCP technology studies work plans and additional RCP plume delineation work plans to regulatory agencies. The cost of completing environmental restoration has changed significantly due to technical and regulatory issues and changes in estimating criteria.

Technical issues delayed the OU 2 ROD amendment and the S 26 RA report.

### FY07 MMRP Progress

DLA has identified no Military Munitions Response Program (MMRP) sites at this installation.

## Plan of Action

Plan of action items for Defense Distribution Depot San Joaquin, Sharpe Facility are grouped below according to program category.

### IRP

- Continue groundwater treatment system and monitoring well network O&M in FY08.
- Continue implementation of the RCP in FY08.
- Complete Site S 26 RA Report and additional RCP plume delineation evaluations in FY08.
- Prepare RCP feasibility study and risk assessment report followed by the OU 1 ROD amendment in FY08.
- Conduct RCP alternative technologies studies and evaluations in FY08.

### MMRP

- There are no MMRP actions scheduled for FY08 or FY09.

<b>FFID:</b>	CA997150682700	<b>Funding to Date:</b>	\$ 99.5 million
<b>Size:</b>	908 acres	<b>Est. CTC (Comp Year):</b>	\$ 30.4 million (FY 2045)
<b>Mission:</b>	Store and distribute medical, textile, food, electronic, industrial, construction, chemicals, and other supplies and equipment	<b>IRP Sites (Final RIP/RC):</b>	73 (FY2010)
<b>HRS Score:</b>	37.16; placed on NPL in August 1990	<b>MMRP Sites (Final RIP/RC):</b>	None
<b>IAG Status:</b>	FFA signed in 1991	<b>Five-Year Review Status:</b>	Completed
<b>Contaminants:</b>	Chlorinated solvents, heavy metals, pesticides, POLs, VOCs		
<b>Media Affected:</b>	Groundwater and Soil		



Tracy, California

**Progress To Date**

Defense Distribution Depot (DDD) San Joaquin, Tracy Facility stores and distributes supplies and equipment for DoD. EPA placed DDD San Joaquin, Tracy Facility on the NPL in August 1990 and the installation signed a federal facility agreement (FFA) in 1991. Sites at this installation include burn and disposal pits, underground storage tanks (USTs), hazardous waste storage sites, and other areas of contamination. Contamination has been identified in on-site soil and off-site groundwater. The installation completed a 5-year review in FY05.

To date, response complete has been achieved at 61 sites at this installation. Two Records of Decisions (RODs) have been signed, one for the treatment of groundwater contamination and one sitewide comprehensive ROD. The cleanup progress at DDD San Joaquin, Tracy Facility for FY03 through FY06 is detailed below.

In FY03, the installation completed a former UST sites preferred alternative report and recommended 12 sites for no further action and 1 site for monitored natural attenuation. Remedial actions (RAs) for Site 8 and soil vapor extraction (SVE) sites were completed. The installation completed an RA report for Site 27 and converted treatment plant (TP) 1 to granular activated carbon. The installation implemented pesticide treatment for TP 1. Operation and optimization of the Operable Unit (OU) 1 groundwater treatment systems continued.

In FY04, DDD San Joaquin, Tracy Facility completed the sitewide ROD amendment and the sitewide ROD explanation of significant differences for various sites. The installation also completed three RA reports: one for Solid Waste Management Unit (SWMU) 8; one for SWMUs 4, 6, and 20; and one for Defense Site Environmental Tracking System 67. The facility also continued operations and maintenance (O&M), monitoring, and optimization of groundwater treatment systems.

In FY05, the installation completed the 5-year review, which included an outline of the draft Response Completion Plan (RCP). The installation continued O&M, monitoring, and optimization of groundwater treatment systems. Additionally, the installation continued trichloroethylene

(TCE)/tetrachloroethylene (PCE) SVE and total petroleum hydrocarbons bioventing sites RA.

In FY06, DDD San Joaquin, Tracy Facility completed the draft sitewide Preliminary Closeout Report (PCOR) and the draft RCP. The installation shut down the pesticide treatment plant portion of the groundwater treatment system. The installation continued O&M, monitoring, and optimization of groundwater treatment systems and groundwater well monitoring network. DDD San Joaquin, Tracy Facility continued operation of the TCE/PCE SVE system RA. The installation completed the TPH bioventing and will be reported in the same RA as SVE. The installation initiated the update of the community relations plan (CRP).

**FY07 IRP Progress**

DDD San Joaquin, Tracy Facility updated the CRP. The installation continued work on the groundwater treatment system and monitoring well network O&M, monitoring, and optimization. The installation submitted the draft RCP including proposed alternative technology studies, feasibility study (FS), risk assessment, and OU 1 ROD to regulatory agencies. The installation continued operation of OU 2 TCE/PCE SVE system RA. USACE proposed a remedy for the North Depot Dieldrin Site to regulatory agencies. The cost of completing environmental restoration has changed significantly due to technical and regulatory issues and changes in estimating criteria.

Technical issues delayed the completion of the sitewide PCOR.

**FY07 MMRP Progress**

DLA has identified no Military Munitions Response Program (MMRP) sites at this installation.

**Plan of Action**

Plan of action items for Defense Distribution Depot San Joaquin, Tracy Facility are grouped below according to program category.

**IRP**

- Complete sitewide PCOR and submit final RCP in FY08.
- Continue groundwater treatment system and monitoring well network O&M, monitoring, and remedial process optimization in FY08.
- Complete and implement exit strategy, including proposed alternative technology studies, FS, risk assessment, and OU 1 ROD in FY08.
- Complete OU 2 TCE/PCE SVE operations, prepare RA report, complete ROD amendment, and pursue potential delisting in FY08.
- Determine remedy for North Depot Dieldrin Site in FY08.

**MMRP**

- There are no MMRP actions scheduled for FY08 or FY09.

<b>FFID:</b>	PA397154266500	<b>Media Affected:</b>	Groundwater and Soil
<b>Size:</b>	87 acres	<b>Funding to Date:</b>	\$ 32.7 million
<b>Mission:</b>	Procured and distributed food, clothing and textiles, medical supplies and equipment, and general and industrial items in support of the DoD military services, federal and civil agencies, and foreign countries; and to ensure military readiness	<b>Est. CTC (Comp Year):</b>	\$ 7.0 million (FY 2012)
<b>HRS Score:</b>	N/A	<b>IRP Sites (Final RIP/RC):</b>	48 (FY2003)
<b>IAG Status:</b>	None	<b>MMRP Sites (Final RIP/RC):</b>	None
<b>Contaminants:</b>	POLs, PCBs, pesticides, asbestos	<b>Five-Year Review Status:</b>	A 5-year review is not required for this installation.



Philadelphia, Pennsylvania

### Progress To Date

In July 1993, the BRAC Commission recommended closure of the Defense Personnel Support Center Site, now known as the Defense Supply Center (DSC) Philadelphia, and relocation of its mission to the Naval Support Activity Philadelphia location in northeast Philadelphia. The commission also recommended closure of the Defense Clothing Factory. Sites include underground storage tanks, aboveground storage tanks, pesticide management areas, hazardous waste management areas, polychlorinated biphenyl (PCB)-containing transformers, asbestos-contaminated areas, and former railroad track areas. The only Installation Restoration Program (IRP) site currently open and undergoing remediation is the subsurface groundwater petroleum hydrocarbon plume, which underlies large portions of the installation. Studies have indicated that the plume originated off-site and migrated onto DSC Philadelphia. A BRAC cleanup team was formed in FY94 and has since provided information to the base transition office and the local redevelopment authority to support reuse plans for the installation. A final Environmental Baseline Survey and a BRAC cleanup plan were completed, and an environmental assessment was prepared. In FY95 a Restoration Advisory Board (RAB) was formed. From FY96 to FY00, DSC Philadelphia and Sunoco, Inc. jointly remediated the hydrocarbon plume under a consent order with the Commonwealth of Pennsylvania. In FY00, the Pennsylvania Department of Environmental Protection (PADEP) issued an administrative order against DLA, DSC Philadelphia, and the Department of the Army requiring sole remediation responsibility of the government. The Defense Energy Support Center (DESC) was selected to manage the subsurface hydrocarbon plume remediation for DLA at the DSC Philadelphia site. A cooperative agreement with the City of Philadelphia was implemented in FY99 for operating and maintaining the site until the air rights were transferred in FY02. Also in FY02, DLA finalized the human health risk assessment. In FY05, the installation began to establish an administrative record.

DSC Philadelphia covers approximately 87 acres. DSC Philadelphia closed five IRP sites in FY01, one IRP site in FY03, and three IRP sites in FY04. Remaining IRP sites, aside

from the hydrocarbon plume, were closed prior to FY01. The cleanup progress at DSC Philadelphia for FY03 through FY06 is detailed below.

In FY03, DSC Philadelphia identified and closed one IRP site. The RAB held three meetings.

In FY04, construction began on the vacuum-enhanced remediation system at DSC Philadelphia. Additionally, DSC Philadelphia identified and closed three more IRP sites. DSC Philadelphia and DLA held meetings and discussions with the Army regarding the transfer of environmental responsibility. A notice of intent to remediate was submitted to PADEP as required by Pennsylvania (PA) Act 2.

In FY05, DSC Philadelphia completed the development of the file coding and began incorporating data into a draft administrative record. DESC completed the construction of the vacuum-enhanced remediation system, and began testing operations. Additionally, DSC Philadelphia, DLA, and the Defense Energy Support Center continued discussions with the Army regarding environmental responsibilities, actions, and timelines.

In FY06, DESC completed testing the vacuum-enhanced remediation system. The system is fully operational. DESC completed Phase I of the deep and intermediate well installation of six deep and four intermediate wells.

### FY07 IRP Progress

DESC completed Phase II of the deep and intermediate well installation. DESC installed seven deep and seven intermediate wells. DESC completed groundwater sampling and analysis of the deep and intermediate wells. The cost of completing environmental restoration has changed significantly due to technical and regulatory issues and changes in estimating criteria.

Technical issues delayed the PA Act 2 submittal and subsequent certification. Technical issues also delayed the public involvement plan (PIP) and certification for operating properly and successfully (OP&S) from PADEP.

### FY07 MMRP Progress

DLA has identified no Military Munitions Response Program (MMRP) sites at this installation.

### Plan of Action

Plan of action items for Defense Supply Center Philadelphia are grouped below according to program category.

#### IRP

- Reinstall portions of the remediation piping and recovery wells at the former Passyunk Homes site in FY08.
- Conduct another round of groundwater sampling in the shallow, intermediate, and deep wells in FY08.
- Obtain access agreements for operation and maintenance of the remediation system and for the installation of any new monitoring wells at the former Passyunk Homes site in FY08.
- Submit a PIP in FY08.
- Complete the certification for OP&S from PADEP in FY08.
- Submit the remedial investigation report and cleanup plan in FY08.
- Submit the PA Act 2 in FY08-FY09.

#### MMRP

There are no MMRP actions scheduled for FY08 or FY09.

<b>FFID:</b>	VA397152075100	<b>Funding to Date:</b>	\$ 62.4 million
<b>Size:</b>	565 acres	<b>Est. CTC (Comp Year):</b>	\$ 23.5 million (FY 2035)
<b>Mission:</b>	Provide logistics support (aviation weapon system and environmental) for DoD	<b>IRP Sites (Final RIP/RC):</b>	32 (FY2012)
<b>HRS Score:</b>	33.85; placed on NPL in July 1987	<b>MMRP Sites (Final RIP/RC):</b>	None
<b>IAG Status:</b>	IAG signed in 1991	<b>Five-Year Review Status:</b>	Completed
<b>Contaminants:</b>	POLs, chlorinated VOCs, PAHs, solvents, pesticides, metals, SVOCs		
<b>Media Affected:</b>	Groundwater, Surface Water, Sediment, Soil		



Richmond, Virginia

## Progress To Date

Defense Supply Center (DSC) Richmond provides aviation weapon systems and environmental logistics support for DoD. EPA placed the installation on the NPL in July 1987 and the installation signed an interagency agreement (IAG) in 1991. Petroleum/oil/lubricants (POLs), polyaromatic hydrocarbons (PAHs), chlorinated volatile organic compounds (VOCs), solvents, metals, and pesticides have been identified in the groundwater and soil at the installation. Remedial technologies used at DSC Richmond have included soil vapor extraction, air stripping, dual-phase extraction, density-driven convection, and pump-and-treat remedy. The installation formed a Restoration Advisory Board (RAB) and implemented a community relations plan in FY02. Five-year reviews were completed in FY97, FY99, FY02, and FY05.

To date, the DSCR has signed 10 Records of Decision (RODs), some of which are interim RODs. The cleanup progress at DSC Richmond for FY03 through FY06 is detailed below.

In FY03, the installation prepared a detailed supplemental focused feasibility study (FFS) work plan and began the field activities at four sites, Operable Units (OUs) 6, 7, 8, and 13. The supplemental FS work plan employs an investigation strategy based on systematic planning, a dynamic work plan, and the use of on-site analytical tools. A consolidated 5-year review report was completed for OUs 1, 3, and 9. An expanded basewide well survey was completed. Operations and maintenance monitoring of the OUs 8 and 9 remedial systems were optimized using suggestions from the Phase II remedial process optimization report. The installation completed a community involvement plan. Partnering activities with state and federal regulators were conducted.

In FY04, DSC Richmond conducted a basewide supplemental FS to refine the conceptual site model (CSM) and to screen technologies for remediation of groundwater. The study employed the Triad method, which integrates systematic planning, dynamic work plans, and on-site analytical tools to meet project and program goals. DSC Richmond also submitted an action memo and removal site evaluation for a principal threat source material removal action. The memorandum supported a time-critical removal of persistent sources to groundwater contamination at DSC Richmond's

former fire training pit area at OU 4. The installation completed a second revised FFS for OU 12, a former pesticide storage building. The report identified and screened remedial alternatives consistent with industrial risk-based action levels and long-term institutional controls. DSC Richmond conducted a rebound study for the Acid Neutralization Pit groundwater OU 8 site.

In FY05, DSC Richmond completed a time-critical principal threat source material removal action and associated closeout report at the OU 4. Over 1,200 tons of hazardous waste was removed. Cost savings were realized by using an on-site laboratory to perform confirmation sampling, which enabled project managers to make quick decisions in the field. The installation also completed the DSC Richmond CSM and the management action plan to identify and manage the restoration program requirements. The proposed plan (PP) for OU 12 was completed. Additionally, the installation initiated a land use control (LUC) implementation plan and risk assessments for OUs 10 and 11. RAB meetings continued to inform the public of progress to date.

In FY06, DSC Richmond submitted the installation's first ROD for groundwater media OU 8. The installation submitted PPs for OUs 10 and 11 to the regulatory agencies which prescribed LUCs for former pesticide sites. DSC Richmond also completed the FFSs for OUs 10 and 11. DSC Richmond completed the FFS for OU 2, a former landfill in the central part of the installation. An FFS and screening level ecological risk assessment for OU 13 were submitted to the agencies. The installation finalized a comprehensive CSM in concurrence with the regulatory agencies. DSC Richmond initiated the remedial action construction (RA-C) at OU 12. The installation completed the PP and FFS for OU 8 and the ROD for OU 12. The installation submitted risk assessments for OUs 10 and 11 as part of the FFSs. DSC Richmond initiated the interim RA for OU 9. The installation also continued RAB meetings to inform the public of progress to date.

## FY07 IRP Progress

DSC Richmond completed RODs for OUs 10 and 11. DSC Richmond issued a remedial design (RD) for OU 8. DSC Richmond initiated a consolidated 5-year review which now includes OUs 1, 3, 6, 8, 9, 10, 11, and 12. DSC Richmond

constructed a large scale treatability study for remaining groundwater OUs 6 and 7. DSC Richmond finalized an explanation of significant differences for OU 1, which advanced the site into response complete (RC) status. The installation completed the RA-C phase of OU 12. The installation completed the RA completion report for OU 12, which advanced the site into RC status. The cost of completing environmental restoration has changed significantly due to technical and regulatory issues and changes in estimating criteria.

Technical issues delayed the PPs and RODs for OUs 2 and 13. Scheduling issues delayed the completion of the 5-year review. Technical issues delayed the completion of the RD for OU 8.

The installation continued RAB meetings on a monthly basis.

## FY07 MMRP Progress

DLA has identified no Military Munitions Response Program (MMRP) sites at this installation.

## Plan of Action

Plan of action items for Defense Supply Center Richmond are grouped below according to program category.

### IRP

- Complete PP and initiate a ROD for OUs 2 and 13 in FY08.
- Complete RD and RA-C for OUs 8, 10, and 11 in FY08.
- Initiate RA-operation phase for OU 8 in FY08.
- Complete 5-year review in FY08.

### MMRP

There are no MMRP actions scheduled for FY08 or FY09.

<b>FFID:</b>	UT821382026500	<b>Funding to Date:</b>	\$ 22.8 million
<b>Size:</b>	19,364 acres	<b>Est. CTC (Comp Year):</b>	\$ 184.6 million (FY 2017)
<b>Mission:</b>	Plan and execute the storage and disposal of chemical weapons	<b>IRP Sites (Final RIP/RC):</b>	27 (FY2009)
<b>HRS Score:</b>	N/A	<b>MMRP Sites (Final RIP/RC):</b>	6 (FY2017)
<b>IAG Status:</b>	None	<b>Five-Year Review Status:</b>	Planned
<b>Contaminants:</b>	Solvents, heavy metals, explosives, VOCs		
<b>Media Affected:</b>	Groundwater and Soil		



Tooele, Utah

## Progress To Date

Deseret Chemical Depot (CD) opened in 1943 as a storage depot for chemical agents. In 2005, the BRAC Commission recommended Deseret Chemical Depot for closure after completion of its chemical demilitarization mission. The primary mission of Deseret CD is the storage, surveillance, and demilitarization of chemical ammunition, and to provide installation support for chemical weapons disposal at its two permitted treatment facilities, Tooele Chemical Agent Disposal Facility (TOCDF) and Chemical Agent Munitions Disposal Systems (CAMDS). TOCDF is a full-scale treatment facility which includes four incinerators used for various decontamination activities associated with chemical agents and munitions. CAMDS is a research and development facility used to demonstrate technology for chemical munitions handling, disassembly, incineration, pollution control, and treatment of waste. The Army has tested and evaluated various alternatives to incineration for destruction of chemical and conventional munitions at the facility. Past operations and disposals at Deseret CD have resulted in various types of contaminants across the installation. Solvents, heavy metals, and explosives are the primary contaminants, with chemical agent breakdown products being detected at several sites.

Deseret CD has identified solid waste management units (SWMUs). There are 2 known releases from these SWMUs and 27 suspected releases. The cleanup progress at Deseret CD for FY03 through FY06 is detailed below.

In FY03, the installation completed and the Army approved the final phase II RCRA facility investigation (RFI) report for SWMU 22 and the corrective measures study (CMS) report for SWMU 37. In addition, the Army completed remedial activities at SWMUs 5, 8, and 30.

In FY04, the Army approved a final work plan addendum for SWMU 19. The Army completed a gravel cap at SWMU 37 and installed fencing at SWMU 9. Deseret CD approved the CMS for SWMU 22. The Army completed remedial activities at SWMUs 17, 19, and 22.

In FY05, the Army completed a final Phase II RFI report and a CMS for SWMU 22.

In FY06, the Army initiated an environmental condition of property (ECP) report in response to the BRAC Commission's recommendation to close Deseret CD after completion of its chemical demilitarization mission.

## FY07 IRP Progress

Deseret CD initiated a baseline risk assessment.

Regulatory issues delayed the remedial activities at SWMU 3, the soil gas study at SWMUs 1 and 25, and the installationwide groundwater monitoring. Administrative issues delayed the ECP.

## FY07 MMRP Progress

The Army conducted no Military Munitions Response Program (MMRP) actions at this installation.

## Plan of Action

Plan of action items for Deseret Chemical Depot are grouped below according to program category.

### IRP

- Complete remedial activities at SWMU 3 in FY08.
- Complete soil gas study at SWMUs 1 and 25 in FY08.
- Continue installationwide groundwater monitoring in FY08.
- Complete ECP in FY08.

### MMRP

There are no MMRP actions scheduled for FY08 or FY09.

<b>FFID:</b>	DE357182401000	<b>Est. CTC (Comp Year):</b>	\$ 65.7 million (FY 2032)
<b>Size:</b>	3,730 acres	<b>IRP Sites (Final RIP/RC):</b>	59 (FY2007)
<b>Mission:</b>	Provide airlift support for troops, cargo, and equipment	<b>MMRP Sites (Final RIP/RC):</b>	None
<b>HRS Score:</b>	35.89; placed on NPL in March 1989	<b>Five-Year Review Status:</b>	Completed and underway
<b>IAG Status:</b>	FFA signed in August 1989		
<b>Contaminants:</b>	Solvents, VOCs, petroleum products, SVOCs, metals		
<b>Media Affected:</b>	Groundwater, Surface Water, Sediment, Soil		
<b>Funding to Date:</b>	\$ 80.4 million		



Dover, Delaware

**Progress To Date**

Dover Air Force Base (AFB) has provided airlift support for troops, cargo, and equipment since 1942. EPA placed the installation on the NPL in March 1989 and the Air Force signed a federal facility agreement (FFA) in August 1989. Former waste management practices contaminated the shallow groundwater aquifer with petroleum products and volatile organic compounds (VOCs). Site types include solvent spills, fire training areas, landfills, fuel spills, and leaks. The installation completed 5-year reviews for five remedies in FY03.

To date, all of the sites either are response complete (RC) or have final remedies in place (RIP). The cleanup progress at Dover AFB for FY03 through FY06 is detailed below.

In FY03, the installation completed a focused feasibility study (FS) for land use control (LUC) implementation at 21 sites. Five-year reviews for five remedies were completed. The installation continued operations of three fuel recovery systems and an accelerated anaerobic bioremediation system. The installation also continued monitoring at one petroleum natural attenuation (NA) site and five chlorinated solvent NA sites. An innovative bioremediation technology demonstration project was expanded due to its initial success at remediating trichloroethylene (TCE). A new innovative technology demonstration project, biogeochemical reductive dehalogenation, was initiated. The installation held monthly Tier I meetings and quarterly Tier II meetings with federal and state regulators to discuss progress and resolve issues.

In FY04, the installation completed regulatory reviews and final changes to the FSs for all remaining sites, and received state concurrence. Four proposed remedial action plans (PRAPs) were drafted. The installation continued operation of three fuel recovery systems, operation of an accelerated anaerobic bioremediation system, and monitoring of groundwater plumes. A work plan was drafted for a biogeochemical mulch barrier to treat chlorinated solvents in groundwater. A Record of Decision (ROD) for LUCs at multiple sites was drafted.

In FY05, Dover AFB drafted remedial action work plans for the South Management Unit and the Area 6 plume, including a total of 11 sites. Two additional PRAPs were drafted for groundwater actions at the remaining CERCLA sites. In addition, four RODs,

covering groundwater actions at 11 sites and LUCs at 22 sites, were drafted. Four petroleum sites achieved RC based on no further action determinations received from the state. Dover AFB finalized FSs for all remaining sites. The installation constructed a biogeochemical mulch barrier to treat chlorinated solvents in groundwater as an innovative technology development project. Operation of three fuel recovery systems and an accelerated anaerobic bioremediation system continued, as did monitoring of groundwater plumes. The installation accepted public comments and held a public meeting for four PRAPs. Dover AFB developed an acceleration initiative with the goal of achieving RIP for all sites by the end of FY06. The Air Force updated its Military Munitions Response Program (MMRP) inventory. No MMRP sites were identified at this installation during the inventory development.

In FY06, Dover AFB signed six final RODs for all remaining cleanup actions at 39 sites and completed four remedial action (RA) work plans for cleanup of five groundwater plumes. Additionally, the installation constructed or implemented final groundwater remedies at 17 sites and completed RA-construction completion reports for final remedies at all CERCLA sites. The Air Force also implemented LUCs at all required sites. As a result of the Dover AFB acceleration initiative, all Dover AFB sites met the RIP milestone and 34 sites were RC.

**FY07 IRP Progress**

Dover AFB initiated 5-year reviews for remedies at all sites. The installation continued operations, maintenance, monitoring, and reporting of groundwater cleanup remedies at 24 sites. Additionally, groundwater cleanup activities were completed ahead of schedule at the remaining petroleum site, which achieved RC with state concurrence. The installation conducted optimization studies that recommended reducing the installationwide monitoring well network by 31 wells and closing one site. The installation also completed its first annual monitoring and reporting event for installationwide LUC activities. The cost of completing environmental restoration has changed significantly due to changes in estimating criteria.

Dover AFB was named the winner of the Secretary of Defense Environmental Award for Restoration in recognition of its

outstanding program acceleration efforts, which achieved RIP at all 59 sites seven years ahead of the DoD goal.

**FY07 MMRP Progress**

The Air Force has identified no MMRP sites at this installation.

**Plan of Action**

Plan of action items for Dover Air Force Base are grouped below according to program category.

**IRP**

- Complete 5-year reviews for all remedies in FY08.
- Continue operations, maintenance, monitoring, and reporting of groundwater cleanup remedies at 24 sites in FY08.

**MMRP**

- There are no MMRP actions scheduled for FY08 or FY09.

<b>FFID:</b>	VA317002251600	<b>Funding to Date:</b>	\$ 6.9 million
<b>Size:</b>	600 acres	<b>Est. CTC (Comp Year):</b>	\$ 0.3 million (FY 2003)
<b>Mission:</b>	Provided radio transmitting facilities and services to support naval ships, submarines, and aircraft	<b>IRP Sites (Final RIP/RC):</b>	11 (FY1996)
<b>HRS Score:</b>	N/A	<b>MMRP Sites (Final RIP/RC):</b>	None
<b>IAG Status:</b>	None	<b>Five-Year Review Status:</b>	Completed
<b>Contaminants:</b>	Dichlorobenzene, PCBs, POLs, trichlorobenzene, lead, SVOCs, VOCs, metals		
<b>Media Affected:</b>	Groundwater, Surface Water, Sediment, Soil		



Suffolk, Virginia

**Progress To Date**

The Driver Naval Radio Transmitting Facility was established as a naval air station to train pilots during World War II and was then converted to a transmitter facility after the war. In July 1993, the BRAC Commission recommended closure of the installation and installation operations ceased on March 31, 1994. The installation formed a technical review committee in FY88 and converted it to a Restoration Advisory Board (RAB) in FY94. In FY92, the installation completed a community relations plan and established an administrative record and information repository. Additionally, a BRAC cleanup team was formed in FY94. The RAB adjourned in FY97. In FY99, three findings of suitability to transfer were signed, and the property was transferred to three agencies. In FY04, the installation completed a 5-year review.

Studies have identified Installation Restoration Program (IRP) sites at the installation, including a former service station, two polychlorinated biphenyls (PCBs) spill areas, and a number of landfills and other areas used to dispose of solvents, acids, bases, and general refuse. The installation has completed two Records of Decision since environmental restoration activities began. The Navy completed an inventory of all Military Munitions Response Program (MMRP) sites. No MMRP sites were identified at this installation. The cleanup progress at Driver Naval Radio Transmitting Facility for FY03 through FY06 is detailed below.

In FY03, the Long-Term Monitoring Annual Report for Year Five was finalized and the work plan for continued long-term management (LTM) at Site 1 was drafted. The Navy also completed the draft 5-year review.

In FY04, the installation finalized the 5-year review and the updated long-term monitoring project plans. The Navy also continued LTM for groundwater and biota at Site 1.

In FY05, the installation continued LTM for groundwater and biota at Site 1.

In FY06, Driver Naval Radio Transmitting Facility continued LTM for groundwater and biota at Site 1.

**FY07 IRP Progress**

Driver Naval Radio Transmitting Facility continued LTM for groundwater and biota at Site 1. The cost of completing environmental restoration has changed significantly due to changes in estimating criteria.

**FY07 MMRP Progress**

The Navy has identified no MMRP sites at this installation.

**Plan of Action**

Plan of action items for Driver Naval Radio Transmitting Facility are grouped below according to program category.

**IRP**

- Continue LTM at Site 1 in FY08.

**MMRP**

There are no MMRP actions scheduled for FY08 or FY09.

<b>FFID:</b>	AR657002447300	<b>Est. CTC (Comp Year):</b>	\$ 0.9 million (FY 2020)
<b>Size:</b>	3,401 acres	<b>IRP Sites (Final RIP/RC):</b>	16 (FY1999)
<b>Mission:</b>	Supported bomber and tanker aircraft operations	<b>MMRP Sites (Final RIP/RC):</b>	9 (FY2002)
<b>HRS Score:</b>	N/A	<b>Five-Year Review Status:</b>	Completed and planned
<b>IAG Status:</b>	None		
<b>Contaminants:</b>	POLs, VOCs, UXO, metals, SVOCs, petroleum hydrocarbons		
<b>Media Affected:</b>	Groundwater, Sediment, Soil		
<b>Funding to Date:</b>	\$ 30.8 million		



Blytheville, Arkansas

**Progress To Date**

In July 1991, the BRAC Commission recommended closure of Eaker Air Force Base (AFB), which formerly supported bomber and tanker aircraft operations. The installation closed in December 1992. Typical environmental site types include underground storage tanks, aboveground storage tanks, oil-water separators, petroleum/oil/lubricant (POL) spill sites, and landfills. Other sites include a fire training area, waste and material storage areas, an explosive ordnance disposal range, a small-arms firing range, a trap and skeet range, a JP-4 jet fuel hydrant system, and a bulk fuel storage tank farm. The installation formed a BRAC cleanup team and a Restoration Advisory Board (RAB) in FY94 and completed a community relations plan in FY95. The BRAC cleanup plan was updated in FY97 and FY05. The RAB adjourned in FY00 due to successful remediation efforts and declining community interest. An Environmental Baseline Survey (EBS) and several supplemental EBSs were completed. The last remedy in place was completed for all Installation Restoration Program (IRP) sites in FY99. In FY99, the Air Force completed the deed for the 110-acre golf course and transferred a 155-acre parcel in FY00. The installation completed the first 5-year review in FY06.

Environmental studies have identified IRP and Military Munitions Response Program (MMRP) sites at Eaker AFB. In addition, a RCRA facility assessment, completed in FY90, identified areas of concern and solid waste management units. Later, an administrative consent order was signed indicating that 30 sites were subject to RCRA corrective action and would be addressed under a RCRA facility investigation. The cleanup progress at Eaker AFB for FY03 through FY06 is detailed below.

In FY03, a 5-year performance-based contract (PBC) was implemented for basewide remedial action operation (RA-O) activities. Additionally, the Air Force conducted long-term management (LTM) and groundwater monitoring activities.

In FY04, the 5-year PBC for basewide RA-O activities, LTM, and groundwater monitoring continued. LTM completion reports for six sites were submitted to regulators for approval. The Air Force conducted an inventory of MMRP sites. MMRP sites were identified at this installation.

In FY05, the 5-year PBC for basewide RA-O activities, LTM, and groundwater monitoring continued. The Air Force conducted fieldwork associated with the first 5-year review and submitted a draft 5-year review to regulators. The Air Force began evaluating requirements at MMRP sites at this installation.

In FY06, the Air Force continued the 5-year PBC for basewide RA-O, LTM, and groundwater monitoring activities. The first 5-year review was completed, which concluded that all remedies remaining at the base continue to be protective of human health and the environment. The Air Force completed an evaluation of MMRP sites.

**FY07 IRP Progress**

Eaker AFB completed the 5-year PBC to conduct basewide RA-O, LTM, and groundwater monitoring activities for environmental sites. The Air Force prepared and submitted the annual LTM status report to regulators, and received regulatory approval for closure of four IRP sites. All monitoring wells associated with the four sites were decommissioned. The Air Force prepared a statement of work for a regional multi-year PBC to continue RA-O, LTM, operations and maintenance (O&M), well decommissioning, and other activities.

**FY07 MMRP Progress**

The Air Force prepared and submitted documentation to the DoD Explosives Safety Board to obtain closure for nine MMRP sites.

**Plan of Action**

Plan of action items for Eaker Air Force Base are grouped below according to program category.

**IRP**

- Prepare and submit annual LTM status report to regulators in FY08.
- Conduct RA-O, LTM, and groundwater monitoring activities for four IRP sites in FY08-FY09.
- Award a regional multi-year PBC to continue LTM, RA-O, O&M, well decommissioning, and other activities in FY08-FY09.

**MMRP**

- Obtain closure of nine MMRP sites in FY08-FY09.

<b>FFID:</b>	NJ217002217200	<b>Funding to Date:</b>	\$ 28.6 million
<b>Size:</b>	11,134 acres	<b>Est. CTC (Comp Year):</b>	\$ 8.3 million (FY 2026)
<b>Mission:</b>	Handle, store, renovate, and ship munitions	<b>IRP Sites (Final RIP/RC):</b>	69 (FY2009)
<b>HRS Score:</b>	37.21; placed on NPL in August 1990	<b>MMRP Sites (Final RIP/RC):</b>	1 (FY2005)
<b>IAG Status:</b>	FFA signed in December 1990	<b>Five-Year Review Status:</b>	Completed
<b>Contaminants:</b>	VOCs, SVOCs, heavy metals, hydrocarbons, petroleum products, explosives, propellants		
<b>Media Affected:</b>	Groundwater, Surface Water, Sediment, Soil		



Colts Neck, New Jersey

**Progress To Date**

Earle Naval Weapons Station (NWS) handles, stores, renovates, and ships munitions. Releases of volatile organic compounds (VOCs) and heavy metals from landfills and production areas have contaminated groundwater and soil at the installation. EPA placed the installation on the NPL in August 1990, and the Navy signed a federal facility agreement (FFA) in December 1990. In FY90, the installation formed a technical review committee (TRC), completed a community relations plan (CRP), and established an information repository containing a copy of the administrative record. The Navy converted the TRC to a Restoration Advisory Board in FY95, updated the CRP in FY98, and completed a 5-year review in FY03.

To date, preliminary assessments (PAs) identified sites of concern, 4 of which required further investigation. The sites include landfills, production areas, storage areas, maintenance areas, and disposal areas. The installation has completed Records of Decision (RODs) at 21 sites and has recommended no further action (NFA) at 13 sites. The Navy completed an inventory of all Military Munitions Response Program (MMRP) sites. The cleanup progress at Earle NWS for FY03 through FY06 is detailed below.

In FY03, the installation completed the draft ROD for Site 13. The feasibility study (FS) was completed for Sites 1 and 11. The draft proposed plan (PP) for Sites 1 and 11 were submitted for regulatory review. The Sites 6, 12, 15, and 17 FSs were reviewed. Sites 3 and 10 landfill caps were completed. The 5-year review plan was completed.

In FY04, the installation finalized the ROD for Site 13. The Navy completed the PP for Sites 1 and 11 and submitted the draft RODs for Sites 1 and 11 for regulatory review. The installation completed the FS for Sites 6, 12, 15, and 17. Regulatory reviews for the PP for Sites 6, 12, 15, 17, and Site 26 secondary tetrachloroethylene (PCE) plume were completed. The installation finalized the ROD for Site 13 and initiated the remedial action (RA). Optimization studies for Sites 16F and 26 were completed. The Conservation Club Range was recommended for NFA.

In FY05, Earle NWS completed the design and construction on the landfill cap for Site 13. The Navy signed a ROD for Sites 1 and 11. The RA for Site 1 began. The installation completed a Classification Exception Area (CEA) draft for Site 1 and issued a draft ROD for Sites 6, 12, 15, and 17. The installation began a draft FS for Site 7 and began discussion of closeout of Sites 9, 41, and 46 through a memorandum of agreement with EPA. The installation issued the final PA for the Conservation Club Range recommending NFA.

In FY06, Earle NWS signed RODs for Sites 3 and 10. The installation continued the RA for Site 1, and began CEA implementation. The installation submitted draft CEAs to the New Jersey Department of Environmental Protection (NJDEP) for Sites 6, 17, and 26, and began reviewing CEAs for Sites 1 and 13. The installation submitted RODs for Sites 6, 12, 15, 17, and 26 for regulatory review. The installation also submitted NFAs for Sites 9, 41, and 46, and the draft FS for Site 7 for regulatory review.

**FY07 IRP Progress**

Earle NWS signed RODs for Sites 6, 12, 15, 17, and 26. EPA signed RODs for Sites 6, 12, 15, 17, and 26. EPA continued to review NFAs for Sites 9, 41, and 46 and the FS for Site 7. NJDEP continued to review CEAs for Sites 1, 6, 13, 15, 17, and 26. NJDEP submitted comments and FS recommendations for Site 7. The cost of completing environmental restoration has changed significantly due to technical issues.

**FY07 MMRP Progress**

EPA continued to review the Conservation Club Range Final PA to possibly identify any MMRP sites.

**Plan of Action**

Plan of action items for Earle Naval Weapons Station are grouped below according to program category.

**IRP**

- Continue RA, including CEA establishment at Sites 1, 6, 13, 15, 17, and 26 in FY08.
- Finalize FS and develop proposed RA plan for Site 7 in FY08.
- Conduct 5 year reviews for Sites 1, 3, 4, 5, 6, 10, 13, 15, 17, 19, 20, 23, 26, and 27 in FY08.

**MMRP**

- Obtain EPA concurrence on NFA for the Conservation Club Range.

<b>FFID:</b>	CA957172450400	<b>Funding to Date:</b>	\$ 317.8 million
<b>Size:</b>	301,000 acres	<b>Est. CTC (Comp Year):</b>	\$ 573.0 million (FY 2040)
<b>Mission:</b>	Conduct aerospace research, development, testing, and evaluation, and provide support to United States and allies	<b>IRP Sites (Final RIP/RC):</b>	260 (FY2011)
<b>HRS Score:</b>	33.62; placed on NPL in August 1990	<b>MMRP Sites (Final RIP/RC):</b>	6 (FY2016)
<b>IAG Status:</b>	FFA signed in 1990	<b>Five-Year Review Status:</b>	Planned
<b>Contaminants:</b>	Waste oils, solvents, petroleum hydrocarbons, POLs, rocket fuel, potential CWM, heavy metals, VOCs, SVOCs		
<b>Media Affected:</b>	Groundwater, Surface Water, Sediment, Soil		



Kern County, California

## Progress To Date

Edwards Air Force Base (AFB) conducts aerospace research, development, testing, and evaluation, and provides support to the United States and its allies. In August 1990, EPA placed the installation on the NPL. The Air Force signed a federal facility agreement (FFA) in FY90 as well. In 2005, the BRAC Commission recommended Edwards AFB for realignment. Interim remedial actions have included installing groundwater treatment systems to remove JP-4 jet fuel and solvents, removing over 350 underground storage tanks and numerous drums of hazardous waste, stabilizing soil to immobilize dioxin and heavy metals, capping the firefighting training facility, bioventing contaminated soil at 12 sites, and installing 7 soil vapor extraction treatment systems. The installation formed a Restoration Advisory Board (RAB) in 1995.

Studies have identified sites and areas of concern (AOCs) that are divided into 10 operable units (OUs). Fifty sites are in the study phase; 21 sites are in the cleanup, operations, construction, Record of Decision (ROD), or decision document stages; 1 site is in long-term monitoring; and 389 sites and AOCs require no further investigation. The cleanup progress at Edwards AFB for FY03 through FY06 is detailed below.

In FY03, the Air Force installed the Site 58 pilot-scale dual extraction system and began operation. Through a partnership with the Desert Research Institute, the installation completed soil testing and initiated moisture infiltration modeling to design a new generic landfill cover for arid environments. Ecological and human health risk assessments were completed for three OUs. The installation's first proposed plan (PP) and ROD for OU 3 were completed. Nine sites and AOCs achieved site closeout or response complete status, respectively.

In FY04, pilot tests and treatability studies (TSs) at Site 285 and various OU 4 sites continued. The installation initiated a pilot test to treat perchlorate effluent discharge in OU 4. Well installation for the nano-scale zero-valent iron study at OU 5 was completed. At Site 325, several wells were installed, and microcosm studies began to determine the best method of in situ biological contaminant degradation. The RAB met four times.

In FY05, Edwards AFB began a PHOSter system TS of the Sites 5/14 groundwater contaminant plume. An in situ bioremediation TS utilizing whey powder injection was initiated at the Site 19 trichloroethene (TCE) plume in OU 1. The Air Force continued to operate the ion exchange (IX) system at Site 285 in OU 5. The installation initiated in situ biological and chemical treatment TSs at two locations at Site 282 in OU 5. Edwards AFB began in situ bioremediation TSs at Sites 162 and 177 in OU 4 and Site 325 in OU 9. The Air Force finalized the PP for the technical impracticability waiver/containment zone designation strategy for groundwater plumes in OU 4. In addition, the installation tested the enhancement of hydraulic conductivity and fracture connectivity in bedrock aquifers by blast fracturing at Site 37 in OU 4. The installation completed removal actions at Sites 275 and 278 in OU 10. Site 276 was removed from the CERCLA process because no contamination was found. The Air Force began the preliminary assessments (PAs) for all identified Military Munitions Response Program (MMRP) sites. The RAB met quarterly.

In FY06, Edwards AFB continued the IX ex situ TS of perchlorate in groundwater at Site 285 and continued in situ biological or chemical treatment TSs at OUs 1, 2, 4, 5, and 9. The installation performed a bioaugmentation TS of the Site 86 groundwater chlorinated solvent plume and a TS for in situ chemical oxidation at Site 14. The Air Force performed enhanced in situ bioremediation and bioaugmentation for treatment of the groundwater chlorinated solvent plume at Site 3 in OU 7. The installation finalized the OU 2 South Base PP and submitted the draft OU 7 chemical warfare material (CWM) feasibility study (FS) report for agency review. The Air Force and EPA completed and signed the OU 6 ROD. The public reviewed a PP for four of the OU 4 sites and nine additional sites that included a management plan, land use controls, monitoring, and the shutdown of the Site 37 and Site 133 groundwater extraction treatment system. The Air Force continued the PAs at all identified MMRP sites. The Air Force also began some site inspections. The RAB met quarterly.

## FY07 IRP Progress

Edwards AFB OU 1 continued operating two dual extraction systems, two soil vapor extraction systems at source areas, and the in situ chemical oxidation and bioremediation TSs at Sites 18 and 19. The installation completed the Site 5/14 in situ

chemical oxidation TS work plan and installed the system. In addition, the CWM FS report for OU 7 was completed. The installation continued operating the Site 285 IX Perchlorate Removal TS. The installation prepared a post-ROD preliminary draft remedial action work plan (RAWP) for OU 6. Site 25 was separated from other OU 8 sites due to concurrence on the FS. The installation operated the Site 25 groundwater extraction and treatment system and the Site 301 bioaugmentation TS, and successfully demonstrated three-phase-heating groundwater treatment for methyl tertiary butyl ether. The installation of treatment cells and a six-phase heating groundwater treatment system at Sites 225 and 298 was completed. Edwards AFB initiated several ongoing treatment systems at OUs 2 and 4.

The CWM FS report for OU 1 was delayed due to ongoing regulator review. Technical issues delayed the ROD for OU 2.

## FY07 MMRP Progress

Edwards AFB completed the comprehensive site evaluation (CSE) Phase I preliminary assessment and continued the CSE Phase II.

## Plan of Action

Plan of action items for Edwards Air Force Base are grouped below according to program category.

### IRP

- Complete remedial investigations at OUs 5/10, 7, and 8 addendum in FY08.
- Complete FSs for OUs 1, 4/9 (NE AFRL/Mars Blvd), 7 (CWM), 7 (Site 3), and 8 in FY08.
- Complete PPs for OUs 4/9 Arroyos, 7 (Site 3), and 7 CWM, and begin PP for OU 8 (Site 25) in FY08.
- Complete RODs for OU 2 and 4/9 soil and debris sites in FY08.
- Begin RAWP for OU 2 and finalize RAWP for OU 6 in FY08.

### MMRP

- Continue the CSE Phase II in FY08.

<b>FFID:</b>	AK057302864600	<b>Est. CTC (Comp Year):</b>	\$ 7.0 million (FY 2032)
<b>Size:</b>	19,790 acres	<b>IRP Sites (Final RIP/RC):</b>	66 (FY2006)
<b>Mission:</b>	Provide tactical air support to Pacific Air Forces	<b>MMRP Sites (Final RIP/RC):</b>	None
<b>HRS Score:</b>	48.14; placed on NPL in November 1989	<b>Five-Year Review Status:</b>	Completed and planned
<b>IAG Status:</b>	IAG signed in May 1991		
<b>Contaminants:</b>	POLs, benzene, VOCs, PCBs, solvents, heavy metals		
<b>Media Affected:</b>	Groundwater and Soil		
<b>Funding to Date:</b>	\$ 58.9 million		



Fairbanks, North Star Borough, Alaska

## Progress To Date

The mission at Eielson Air Force Base (AFB) is to provide tactical air support to Pacific Air Forces. EPA placed the installation on the NPL in November 1989 and the Air Force signed an interagency agreement (IAG) in May 1991. In 2005, the BRAC Commission recommended Eielson AFB for realignment. Environmental studies at Eielson AFB began in FY82. Sites include fire training areas, landfills, spill sites, aboveground storage tanks, underground storage tanks, and disposal pits. Primary contaminants affecting groundwater and soil are petroleum/oil/lubricants (POLs), benzene, and chlorinated solvents. Additional contaminants include heavy metals, volatile organic compounds (VOCs), and polychlorinated biphenyls (PCBs). In FY95, the installation converted its technical review committee to a Restoration Advisory Board (RAB). Five-year reviews were completed in FY98 and FY03.

Eielson AFB cleanup sites were grouped into 6 operable units (OUs); 24 sites were investigated and determined to require no further action (NFA). To date, all Records of Decision (RODs) for the Installation Restoration Program (IRP) have been signed, and amendments have been signed for the OU 2, OU 3, OU 4, and OU 5 RODs. In FY05, the Air Force updated its Military Munitions Response Program (MMRP) inventory. In FY06, Eielson AFB removed Site SS 68 from the IRP. The cleanup progress at Eielson AFB for FY03 through FY06 is detailed below.

In FY03, the installation decommissioned the bioventing systems at Site ST 20, E 7 complex, and Site ST 48. The 5-year review was also completed. The installation prepared the proposed closure documents for all sites sampled in the FY02 sitewide sampling and analysis program. Closure documentation was incorporated into the ROD review report. The installation continued annual long-term operations (LTO)/long-term management at the active sites.

In FY04, Eielson AFB received funding for the proposed event-driven monitoring (EDM) concept for the long-term monitoring program. A removal action and site evaluation were completed at SS 35. Eielson AFB received regulatory concurrence that the remaining buried drums at the site do not constitute a changing site condition and do not alter the

conclusions drafted in the ROD. The installation remediated the emulsion seepage. NFA is required for the remainder of the buried drums. Removal of the OU 1 bioventing system at Sites ST 20 and E 9 was completed. LTO savings from the three decommissioned OU 1 bioventing systems were used to repair and upgrade the OU 2 bioventing system at Site ST 10/SS 14. The RAB held biannual meetings.

In FY05, Eielson AFB continued to make progress with the EDM initiative. The installation completed OU 2 bioventing system repair and upgrade for Site ST 13/DP 26. Remedial action operation (RA-O) activities at the OU 2 bioventing systems at Sites ST 10/SS 14 and ST 13/DP 26 continued. The installation completed the sitewide sampling and analysis of monitoring wells. The current measures at Garrison Slough remain protective and progress toward the targeted risk range continued. Fish removal action from the slough continued. The Air Force updated its MMRP inventory. No MMRP sites were identified at this installation during the inventory development. The RAB co-chairs suspended regularly scheduled meeting periods and will meet on an as-needed basis only. A yearly fact sheet publication will convey IRP information to the surrounding communities.

In FY06, Eielson AFB employed the EDM initiative for in situ monitoring and implemented the remedial process optimization (RPO) effort. The installation continued RA-O activities at the OU 2 bioventing systems at Sites ST 13/DP 26 and ST 10/SS 14. The installation awarded a munitions sweep contract for Garrison Slough. The Air Force removed SS 68 from the IRP. Future activities will be addressed through the compliance program following State of Alaska cleanup standards for Regulation 18 AAC 78. The Eielson AFB RAB merged with the U.S. Army Corps of Engineers (USACE) FUDS program for the Eielson Farm Road AAA site. The combined RAB met to discuss the USACE's proposed plan for remediation efforts at the site.

## FY07 IRP Progress

Eielson AFB continued the RA-O for OU 2 bioventing systems for ST 13/DP 26 and ST 10/SS 14. The installation collected groundwater data for selected IRP sites. The base completed the fish removal initiative at Garrison Slough. In addition,

Eielson AFB completed the munitions sweep of Garrison Slough.

Technical issues delayed the evaluation of data collected at Site WP 45/SS 57 to determine applicability of a future carbon donor project for enhanced trichloroethylene (TCE) remediation.

## FY07 MMRP Progress

The Air Force initiated a preliminary assessment (PA) at this installation.

## Plan of Action

Plan of action items for Eielson Air Force Base are grouped below according to program category.

### IRP

- Complete RA-O of four OU 2 sites in FY08.
- Complete RA-O of two OU 3 sites in FY08.
- Assemble RPO team for developing strategy for moving program to land use control phase in FY08.
- Conduct 5-year review in FY08.
- Evaluate data collected at WP 45 and SS 57 to determine applicability of a future carbon donor project for enhanced TCE remediation in FY08.

### MMRP

- Complete PA in FY08.

<b>FFID:</b>	CA917302320800	<b>Media Affected:</b>	Groundwater, Surface Water, Sediment, Soil
<b>Size:</b>	4,738 acres	<b>Funding to Date:</b>	\$ 138.4 million
<b>Mission:</b>	Served as the primary Marine Corps jet fighter facility on the West Coast; provide materials and support for Marine Corps aviation activities; provide housing for Marine Corps personnel	<b>Est. CTC (Comp Year):</b>	\$ 63.8 million (FY 2038)
<b>HRS Score:</b>	40.83; placed on NPL in February 1990	<b>IRP Sites (Final RIP/RC):</b>	25 (FY2012)
<b>IAG Status:</b>	FFA signed in October 1990	<b>MMRP Sites (Final RIP/RC):</b>	None
<b>Contaminants:</b>	Herbicides, SVOCs, metals, TCE and other VOCs, petroleum hydrocarbons, PCBs, pesticides	<b>Five-Year Review Status:</b>	Planned



Irvine, California

**Progress To Date**

The EI Toro Marine Corps Air Station (MCAS) served as the primary Marine Corps jet fighter facility on the West Coast, and provided materials and support for Marine Corps aviation activities. The installation was placed on the NPL in February 1990, and a federal facility agreement (FFA) was signed in October 1990. The sites at the installation are grouped into three operable units (OUs): volatile organic compound (VOC) contaminated regional groundwater (OU 1), sites potentially contributing to groundwater contamination (OU 2), and all remaining CERCLA sites (OU 3). The installation's technical review committee, formed in FY90, was converted to a Restoration Advisory Board (RAB) in FY94. In July 1993, the BRAC Commission recommended closure of this installation and a transfer of its aircraft, personnel, equipment, and support to Miramar Naval Air Station and Camp Pendleton Marine Corps Base. In FY94, a BRAC cleanup team (BCT) was formed and a BRAC cleanup plan was developed. In FY05, the installation updated its community relations plan (CRP).

Studies at EI Toro MCAS have identified 24 CERCLA sites, 594 locations of concern, and 404 underground storage tanks (USTs). To date, approximately 3,727 of the original 4,712 acres have been either transferred or found environmentally suitable for transfer. The installation has completed 17 Records of Decisions (RODs) since environmental restoration activities began. In addition, it has completed two No Further Action (NFA) RODs and achieved regulatory concurrence on NFA for 36 UST sites, 12 aerial-photography anomaly (APHO) sites, and 12 aboveground storage tanks. In FY02, the Navy completed an inventory of all Military Munitions Response Program (MMRP) sites. The cleanup progress at EI Toro MCAS for FY03 through FY06 is detailed below.

In FY03, EI Toro MCAS coordinated with two local water districts for the development of remedial design (RD) on Site 18. The installation obtained NFA regulatory letters for 41 locations of concern. The installation completed the ROD for Site 16. The installation also completed 30 percent of RD for Sites 18 and 24. The installation completed the update on the Environmental Baseline Survey, and draft finding of suitability to transfer (FOST) and finding of suitability to lease (FOSL).

In FY04, the installation finalized the FOST and FOSL without Navy

regulatory agency exceptions or contingencies. EI Toro MCAS also completed the radiological release report for Sites 2, 8, 12, 17, and 25. The installation submitted the draft CRP update to regulators. The Navy signed the Site 16 monitored natural attenuation ROD. The installation initiated the Site 11 remedial action (RA), and Sites 8 and 12 non-time critical removal action.

In FY05, EI Toro MCAS completed fieldwork for the Site 11 (Transformer Storage Area) RA. In addition, the installation completed the draft NFA ROD for Site 24 vadose zone soils and completed draft remedial investigation (RI) report for Site 1 (former explosive ordnance disposal range). The installation completed the RD for Site 24 groundwater VOC source area and initiated RA field activities. The installation also completed the RD for Site 18 Regional VOC groundwater plume. The installation completed a draft feasibility study (FS) addendum for Sites 3 and 5 landfills and Site 8 Defense Reutilization and Marketing Office (DRMO) Storage Yard. The Navy also completed exploratory trenching at 43 locations and soil sampling at various pipeline features and achieved NFA status for 11 aircraft direct refueling stations. The installation completed the excavation and removal of petroleum-impacted soils at former UST Site 308. Additionally, the installation completed investigation and achieved regulatory concurrence on NFA for nine APHO sites, six temporary hazardous waste accumulation areas, seven oil/water separator sites, two USTs, and two solid waste management units. The installation also completed the CRP update and continued facilitating BCT and RAB meetings.

In FY06, EI Toro MCAS completed a draft RI report for Site 1 and a draft FS addendum for Sites 3 and 5 landfills. The installation drafted RODs for Sites 8 (DRMO Storage Yard) and 12 (Sludge Drying Beds). The installation completed the ROD for Site 24 (vadose zone soils). The installation initiated RAs for the Site 2 landfill cap, and the Site 18 and 24 VOC groundwater plume. EI Toro MCAS completed exploratory trenching at 43 locations and soil sampling at various JP5 pipeline features. The Navy achieved NFA for 11 aircraft direct refueling stations, approximately 3,100 linear feet of primary pipelines and 1,600 linear feet of secondary pipelines.

**FY07 IRP Progress**

EI Toro Marine Corps Air Station completed the ROD for Sites 8

and 12, an FS addendum, and draft RODs for Sites 3 and 5. The Navy also completed a RI report and draft FS for Site 1. The installation completed a supplemental groundwater evaluation for Anomaly Area #3. The Navy completed the final operating properly and successfully (OP&S) report for Site 16, a final operations and maintenance (O&M) manual for Sites 18 and 24, and a final interim-RA completion report for Site 24. Operations are underway in support of demonstrating OP&S for Sites 18 and 24 RA. RA activities for Site 17 are also underway. The installation completed treatment and confirmation sampling, indicating that any hazardous materials in groundwater do not present an unacceptable risk.

Completion of the RODs for Sites 3 and 5 and RI/FS for Anomaly Area #3 were delayed due to regulatory concerns. Technical issues delayed the completion of RAs for Sites 2 and 17.

**FY07 MMRP Progress**

The Navy has identified no MMRP sites at this installation.

**Plan of Action**

Plan of action items for EI Toro Marine Corps Air Station are grouped below according to program category.

**IRP**

- Complete draft final FS for Site 1 Soil and initiate pilot test for Site 1 Groundwater in FY08.
- Complete RODs and initiate RD for Sites 3 and 5 in FY08.
- Complete RAs for Sites 2 and 17.
- Complete design and initiate RA at Sites 8 and 12 in FY08.
- Complete OP&S report for Site 24 in FY08.
- Continue O&M and long-term management sampling in FY08.

**MMRP**

There are no MMRP actions scheduled for FY08 or FY09.

<b>FFID:</b>	SD857212464400	<b>Funding to Date:</b>	\$ 78.1 million
<b>Size:</b>	4,858 acres	<b>Est. CTC (Comp Year):</b>	\$ 8.6 million (FY 2015)
<b>Mission:</b>	Maintain a combat-ready force capable of executing long-range bombardment operations	<b>IRP Sites (Final RIP/RC):</b>	20 (FY2002)
<b>HRS Score:</b>	33.62; placed on NPL in August 1990	<b>MMRP Sites (Final RIP/RC):</b>	1 (FY2003)
<b>IAG Status:</b>	FFA signed in January 1992	<b>Five-Year Review Status:</b>	Completed and planned
<b>Contaminants:</b>	Solvents (including TCE), POLs, lead, low-level radioactive waste		
<b>Media Affected:</b>	Groundwater and Soil		



Rapid City, South Dakota

**Progress To Date**

Ellsworth Air Force Base (AFB) maintains a combat-ready force capable of executing long-range bombardment operations. The base was placed on the NPL in August 1990 and signed a federal facility agreement (FFA) in January 1992. Site types include landfills, underground storage tanks, maintenance areas, a fire training area, and a low-level radioactive waste burial site. Groundwater and soil contamination resulted from releases of trichloroethylene (TCE) and petroleum/oil/lubricants (POLs) at these sites. In FY95, the base formed a Restoration Advisory Board. In FY00, a 5-year review was completed for 13 sites, and in FY05, a second 5-year review was completed, both concluding that all sites were protective of human health and the environment.

Sites at the installation were grouped into 12 operable units (OUs). Records of Decision have been signed for OUs 1 through 10 and OU 12. The cleanup progress at Ellsworth AFB for FY03 through FY06 is detailed below.

In FY03, the Air Force completed repairs at Landfill 05, continued the remedial investigation/feasibility study (RI/FS) for Site OT 18, and removed free product at Site RW 27. Remedial action-operations (RA-O) and long-term management (LTM) continued at selected sites. Additional data was collected for the expanded RI/FS for Site RW 27.

In FY04, the installation completed the RI/FS for Site OT 18. For Site RW 27, the installation also completed the expanded RI and started the FS. In addition, Ellsworth AFB continued RA-O and LTM at selected sites. The preliminary assessment (PA) was no longer required, as the area previously identified by Air Force contractors as a Military Munitions Response Program (MMRP) area of concern was subsequently determined to be an explosives ordnance disposal site closed under the Environmental Restoration Program in FY97.

In FY05, Ellsworth AFB added information and reformatted data into a substantially expanded PA/site inspection for Site RW 27, and continued RA-O and LTM at selected sites. The installation initiated a study of reductive biodechlorination and a study of impacts on substandard utilities and groundwater flow. Ellsworth AFB completed a second 5-year review and awarded a performance-based contract covering the closure of 13

Installation Restoration Program (IRP) sites. The installation conducted outreach in support of the Badlands Bombing Range (Site OT 18) cleanup. The Air Force updated its MMRP inventory. No MMRP sites were identified at this installation during the inventory development.

In FY06, Ellsworth AFB continued RA-O and LTM at selected sites. The installation initiated several reductive biodechlorination treatability studies at OU 04 and Site OT 20. The installation also initiated a data gaps investigation related to basewide groundwater at Site OT 20. The installation conducted outreach in support of the Badlands Bombing Range (Site OT 18) cleanup.

**FY07 IRP Progress**

EPA Region VIII deleted 10 of the 12 OUs at Ellsworth AFB from the NPL. Two sites remain on the NPL: OT 20 and FT 01. The installation continued RA-O and LTM at selected sites and continued the data gaps investigation. The base implemented full scale bioremediation on installationwide groundwater Site OT 20. The installation continued optimization with the shutdown of selected extraction wells and accelerated soil cleanup at Site FT 01 with high vacuum extraction. Ellsworth AFB received EPA approval for the RI for Site RW 27. LTM for Site RW 27 continued and was optimized. The base renewed consultation with the Oglala Sioux Tribe on Badlands Bombing Range (Site OT 18) cleanup.

**FY07 MMRP Progress**

The Air Force conducted no MMRP actions at this installation.

**Plan of Action**

Plan of action items for Ellsworth Air Force Base are grouped below according to program category.

**IRP**

- Seek concurrence from Wyoming Department of Environmental Quality for Site RW 27 RI Report in FY08.
- Complete Badlands Bombing Range (Site OT 18) tribal consultation plan and community relations plan in FY08.
- Continue RA-O and LTM at selected sites with optimization in FY08-FY09.
- Complete Badlands Bombing Range (Site OT 18) engineering evaluation/cost analysis in FY09.

**MMRP**

There are no MMRP actions scheduled for FY08 or FY09.

<b>FFID:</b>	AK057302864900	<b>Est. CTC (Comp Year):</b>	\$ 55.9 million (FY 2038)
<b>Size:</b>	13,452 acres	<b>IRP Sites (Final RIP/RC):</b>	85 (FY2011)
<b>Mission:</b>	Serve as host to Headquarters Alaskan Command	<b>MMRP Sites (Final RIP/RC):</b>	5 (FY2019)
<b>HRS Score:</b>	45.91; placed on NPL in August 1990	<b>Five-Year Review Status:</b>	Completed and planned
<b>IAG Status:</b>	FFA signed in November 1991		
<b>Contaminants:</b>	VOCs, heavy metals, POLs, solvents		
<b>Media Affected:</b>	Groundwater, Surface Water, Sediment, Soil		
<b>Funding to Date:</b>	\$ 88.3 million		



Anchorage, Alaska

**Progress To Date**

Elmendorf Air Force Base (AFB) serves as headquarters to the Alaskan Command. EPA placed the installation on the NPL in August 1990 and the Air Force signed a federal facility agreement (FFA) in November 1991. In 2005, the BRAC Commission recommended Elmendorf AFB for realignment. Sites include old construction landfills, petroleum spill sites, and underground storage tanks. The installation formed a Restoration Advisory Board (RAB) in FY92. In FY97, the RAB charter was rewritten to focus on all environmental activities, beginning the transition to a Community Advisory Board. The installation developed a community relations plan, which was revised in FY00. Five-year reviews were conducted in FY98 and FY04.

Thirty-eight sites, grouped into six operable units (OUs), are covered by the FFA. An additional 42 sites have been designated as petroleum/oil/lubricant (POL)-contaminated sources and remedial activities are being performed under the State of Alaska cleanup regulations. The remaining eight sites are not part of either the FFA or the agreement with the State of Alaska. By 1997, Records of Decision (RODs) had been signed for OUs 1, 2, 3, 4, 5, and 6. The cleanup progress at Elmendorf AFB for FY03 through FY06 is detailed below.

In FY03, the Air Force began the engineering evaluation and cost analysis at Site SA 99, which resulted in a no further action determination. Remedial action-operations of 20 bioventing systems, operation of the engineered wetland system at OU 5, and operation of the high-vacuum extraction (HVE) system at Site SD 15 continued. The installation also conducted the annual beach sweep at Landfill (LF) 04. Elmendorf AFB received Pacific Air Forces' (PACAF's) General Thomas D. White Installation award.

In FY04, Elmendorf AFB completed the second 5-year review. The installation also completed and signed the ROD for Site DP 98 and the site closure report for LFs 05, 07, and 13, and OT 56. In addition, the installation initiated the remedial action for Site DP 98 and system optimization of the OU 5 engineered wetland remediation system, as well as the removal action at SS 83. Elmendorf AFB received PACAF's General Thomas D. White Installation award.

In FY05, Elmendorf AFB began the OU 6 explanation of significant differences (ESD) at Site SD 15. The ESD provides clarifications to the criteria used to operate the Site SD 15 HVE treatment system, administration of land use controls, and use of a state-mandated cleanup goal for 1,1,2,2-Tetrachloroethane (PCE) at LF 02. The installation also completed and signed site closure documents for Sites ST 71 and 74, and Site SA 99. In addition, the Site DP 98 limited source removal was completed, annual beach sweeps at LF 04 were conducted, and PACAF's first performance-based contract was accomplished at Site PL 81. A remedial process optimization project was conducted that resulted in implementing two separate groundwater plume treatability studies (TSSs) to enhance the cleanup process at these two locations within the base boundaries. The installation received both PACAF's General Thomas D. White Installation and Team awards. The Air Force began preliminary assessments (PAs) for all identified Military Munitions Response Program (MMRP) sites.

In FY06, Elmendorf AFB began a TS for enhanced bioremediation at the Kenney Plume (Site ST 37) and began a TS for a bio-reactive barrier at the Slammer Plume (Site ST 37). The installation prepared draft decision documents (DDs) for Sites ST 36/66 and 68, and SS 43. The installation completed a site closure report for SS 10. The Air Force also conducted annual beach sweeps at LF 04 and continued operation of bioventing systems at Sites FT 23 and ST 32. The Air Force continued the PAs at all identified MMRP sites.

**FY07 IRP Progress**

Elmendorf AFB completed and signed OU 6 ESD. The installation began a remedial investigation/feasibility study at SS 22. The installation completed a DD for Site ST 68 and initiated a third 5-year review. The cost of completing environmental restoration has changed significantly due to changes in estimating criteria.

Regulatory issues delayed the completion of closure documents for Site ST 61. A revised conceptual site model is being prepared to assist in determining the appropriate next step.

**FY07 MMRP Progress**

Elmendorf AFB conducted PAs for all identified MMRP sites in FY07.

**Plan of Action**

Plan of action items for Elmendorf Air Force Base are grouped below according to program category.

**IRP**

- Remove SD 15 HVE treatment system in FY08.
- Remove two bioventing systems at ST 32 in FY08.
- Complete third 5-year review in FY09.

**MMRP**

- Conduct a fence-to-fence combined PA/site inspection for additional identified sites in FY08.

<b>FFID:</b>	LA657002445200	<b>Funding to Date:</b>	\$ 35.4 million
<b>Size:</b>	2,284 acres	<b>Est. CTC (Comp Year):</b>	\$ 9.7 million (FY 2036)
<b>Mission:</b>	Supported flying operations for fighter and attack aircraft	<b>IRP Sites (Final RIP/RC):</b>	46 (FY2001)
<b>HRS Score:</b>	N/A	<b>MMRP Sites (Final RIP/RC):</b>	8 (FY2009)
<b>IAG Status:</b>	None	<b>Five-Year Review Status:</b>	Underway and planned
<b>Contaminants:</b>	Industrial waste, spent solvents, fuels, waste oil, paints, pesticides, low-level radioactive waste, chlorine gas, PCBs, TCE, POLs, alkali, medical waste, VOCs, SVOCs, metals		
<b>Media Affected:</b>	Sediment, Soil, Groundwater		



Alexandria, Louisiana

**Progress To Date**

England Air Force Base (AFB) was established in 1943 and supported flying operations for various aircraft throughout its history. In July 1991, the BRAC Commission recommended closure of England AFB and the installation closed in December 1992. Sites identified at the installation include landfills, underground storage tanks, aboveground storage tanks, fire training areas, oil-water separators, a sewage treatment pond, a low-level radiation site, and gas training kit burial sites. The installation formed a BRAC cleanup team (BCT) in FY93 and a Restoration Advisory Board (RAB) in FY94. The BRAC cleanup plan was updated in FY95 and FY04. The RAB disbanded in FY00 due to lack of community interest.

Environmental studies have identified Installation Restoration Program (IRP) and Military Munitions Response Program (MMRP) sites at the installation. A RCRA facility assessment conducted in FY92 identified areas of concern and solid waste management units. To date, more than 1,700 acres have been transferred, primarily to the local redevelopment authority (LRA). The cleanup progress at England AFB for FY03 through FY06 is detailed below.

In FY03, England AFB conducted additional sampling and data research for the trichloroethylene (TCE) plume (Site SS045), including EPA Adda Lab field investigation for microbial DNA for specific microbes. Additional sentry monitoring wells were installed to further define the eastern plume boundary. EPA identified microbes that break down TCE in half of the plume. The Air Force worked with regulators to finalize the 13 final reports containing the sites on the Hazardous and Solid Waste Amendments permit and incorporated comments.

In FY04, the Air Force transferred 152 acres to the LRA, and the corrective action permit application was revised as requested by the State. The installation continued monitored natural attenuation of the TCE plume to comply with post-closure plan requirements. The Air Force conducted an inventory of MMRP sites. MMRP sites were identified at this installation.

In FY05, long-term management (LTM) at Landfill (LF) 015 and Spill Site (SS) 021, and remedial action operation (RA-O) at SS 045 (TCE plume), were conducted. The Air Force developed an

alternative strategy for site closure and submitted it for review. The Air Force also began evaluating requirements at the identified MMRP sites. Two BCT meetings were held.

In FY06, LTM at LF 015 and SS 021, and RA-O at SS 045 continued. The Air Force transferred approximately 384 acres to the LRA and submitted the first 5-year review to regulators. An operating properly and successfully (OP&S) determination report for SS 045 was prepared, which will be submitted with the RCRA corrective action permit renewal application. Munitions and explosives of concern (MEC) clearance activities were initiated at three sites. The Air Force evaluated the requirements necessary to close the remaining eight MMRP sites. Two BCT meetings were held.

**FY07 IRP Progress**

England AFB continued LTM at LF 015 and SS 021, and RA-O at SS 045. Regulators reviewed the first 5-year review. The Air Force prepared a final document for signature. A revised RCRA corrective action permit renewal application was prepared and submitted to state regulators, who declared it administratively complete. The cost of completing environmental restoration has changed significantly due to changes in estimating criteria.

The RAB held two BCT meetings.

**FY07 MMRP Progress**

England AFB completed MEC clearance activities at three sites. The Air Force prepared closure documentation for the remaining MMRP sites.

**Plan of Action**

Plan of action items for England Air Force Base are grouped below according to program category.

**IRP**

- Submit first 5-year review to regulators in FY08.
- Prepare finding of suitability to transfer for the remaining 576 acres in FY08.
- Develop and submit OP&S determination reports for LF 015 and SSs 021 and 045 in FY08.
- Coordinate with state regulators to finalize RCRA corrective action permit in FY08.
- Continue LTM at LF 015 and SS 021, and RA-O at SS 045 in FY08-FY09.

**MMRP**

- Submit after-action report for three MMRP sites to the Air Force Safety Center (AFSC) and the DoD Explosives Safety Board (DDESB), and obtain MEC clearance in FY08.
- Submit closure documentation for remaining sites to AFSC and DDESB in FY08.

<b>FFID:</b>	WY857212417900	<b>Media Affected:</b>	Groundwater, Surface Water, Sediment, Soil
<b>Size:</b>	5,866 acres	<b>Funding to Date:</b>	\$ 123.6 million
<b>Mission:</b>	Serve as host to the 90th Space Wing, which support missile and space launch operations	<b>Est. CTC (Comp Year):</b>	\$ 38.6 million (FY 2034)
<b>HRS Score:</b>	39.23; placed on NPL in February 1990	<b>IRP Sites (Final RIP/RC):</b>	24 (FY2010)
<b>IAG Status:</b>	FFA signed in September 1991; Modification 11 signed in July 1998	<b>MMRP Sites (Final RIP/RC):</b>	None
<b>Contaminants:</b>	Oils, solvents, metals, acids, petroleum, explosives residues, VOCs, SVOCs	<b>Five-Year Review Status:</b>	Completed and planned



Cheyenne, Wyoming

**Progress To Date**

The Air Force began restoration activities at F.E. Warren Air Force Base (AFB) in FY84. Between 1984 and 1989, trichloroethylene (TCE)-contaminated soil was removed from Spill Sites (SSs) 1, 4, and 7, as well as the acid dry well site. The base was placed on the NPL in February 1990 and a federal facility agreement (FFA) was signed in September 1991 that included 19 sites, which were grouped into seven operable units (OUs); Modification 11 was signed in July 1998. Five additional sites have been identified since 1991. All sites were subsequently grouped into 14 OUs and five investigative zones. In FY95, a Restoration Advisory Board (RAB) was formed. The Air Force completed 5-year reviews in FY99 and FY04.

Remedial investigations (RIs) have identified sites which were grouped into 14 OUs and five investigative zones. The installation has signed Records of Decision (RODs) for 19 of the sites, 11 of which required no further action (NFA). The Air Force updated its Military Munitions Response Program (MMRP) inventory. The cleanup progress at F.E. Warren AFB for FY03 through FY06 is detailed below.

In FY03, the Air Force completed construction of the Zone B final remedial action (RA) by installing a pump-and-treat system. The revised feasibility study for Zone C was completed and the ROD amendment continued on schedule.

In FY04, the Air Force completed and signed the landfills (LFs) 4 and 7, and Fire Protection Training Area 1 final RODs. The RAs for LFs 4 and 7 were subsequently completed. The source area removal action at SS 7 was completed. The second 5-year review and the Zone C ROD amendment were completed.

In FY05, F.E. Warren AFB completed and signed the Zone E ROD indicating NFA required. The installation completed the Phase I Range RI with over 30,000 anomalies identified and investigated. The Zone C ROD amendment was signed and the remedy was implemented. The remedy selected for Zone C included the use of hydraulic fracturing to place solid potassium permanganate within the zone of groundwater contamination. The installation also completed a supplemental preliminary assessment/site inspection that added four sites to the installation's cleanup program. The Air Force updated its MMRP inventory. No MMRP sites were identified at this

installation during inventory development. Meetings and training for the RAB continued. Partnering meetings with the Air Force, EPA, the State, contractors, and project managers continued regularly.

In FY06, F.E. Warren AFB completed and signed the ROD for Zone D groundwater and an NFA ROD for the Zone D source areas. The installation completed the remedial design and began construction of the Zone D groundwater RA. The installation began a Phase II site inspection (SI) for two of the newly identified sites (SS 09 and SA 10), and began RI activities for the other two sites (SS 08 and SS 10). The Air Force identified munitions and explosives of concern (MEC) and MEC scrap along the base boundary, indicating a need to investigate the adjacent private property. F.E. Warren AFB began the process to obtain access to this property. The Air Force continued the RI of the closed firing ranges. The RAB held quarterly meetings, and also discussed proposed plans for the installation's sites.

**FY07 IRP Progress**

F.E. Warren AFB began installation of the Zone D groundwater remedies and amended the ROD for remedies at two groundwater plumes. The installation continued monitoring all sites requiring RA-operation and long-term management, including implementation of a Phase II remedial process optimization for the Zone B groundwater treatment system. The Air Force also completed the ongoing SI and RI efforts at SSs 08, 09 and 10, and SA 10.

Field efforts for the closed north ranges RI were completed; however, technical issues delayed the completion of Zone D groundwater remedies.

**FY07 MMRP Progress**

The Air Force has identified no MMRP sites at this installation.

**Plan of Action**

Plan of action items for F.E. Warren Air Force Base are grouped below according to program category.

**IRP**

- Complete the installation of remedies at Plumes C and E for Zone D groundwater in FY08.
- Complete the RI report and feasibility study for the closed ranges in FY08.
- Complete the RA at SS 10 in FY08.
- Complete the RI for SS 9 in FY08.

**MMRP**

There are no MMRP actions scheduled for FY08 or FY09.

<b>FFID:</b>	WA057212464700	<b>Funding to Date:</b>	\$ 51.4 million
<b>Size:</b>	4,300 acres	<b>Est. CTC (Comp Year):</b>	\$ 63.1 million (FY 2029)
<b>Mission:</b>	Provide aerial refueling and airlift services	<b>IRP Sites (Final RIP/RC):</b>	37 (FY2011)
<b>HRS Score:</b>	31.98; placed on NPL in March 1989	<b>MMRP Sites (Final RIP/RC):</b>	4 (FY2013)
<b>IAG Status:</b>	FFA signed in March 1990	<b>Five-Year Review Status:</b>	Completed and planned
<b>Contaminants:</b>	Solvents, fuels, electroplating chemicals, cleaning solutions, corrosives, photographic chemicals, paints, thinners, pesticide residues, PCBs, VOCs, SVOCs, metals, radioactive materials		
<b>Media Affected:</b>	Groundwater, Surface Water, Sediment, Soil		



Spokane County, Washington

**Progress To Date**

Fairchild Air Force Base (AFB) provides aerial refueling and airlift services. EPA placed the installation on the NPL in March 1989 and the Air Force signed a federal facility agreement (FFA) in March 1990. In 2005, the BRAC Commission recommended Fairchild AFB for realignment. Sites include contaminated fire training areas, landfills, radioactive waste sites, spill sites, waste pits, disposal pits, and ditches. Interim actions included removal of 1,600 cubic yards of soil contaminated with fuels and oils. Additional interim removal actions were completed at the waste storage area, waste fuel operations, a fuel transfer facility, and the arsenic ditches and culverts in FY99. The installation formed a Restoration Advisory Board in FY95. In FY00, a partial site delisting effort was initiated with the Washington State Department of Ecology (WA DOE) and EPA. The installation prepared 22 sites for removal from the NPL. Five-year reviews were completed in FY01 and FY07.

Environmental studies have identified Installation Restoration Program (IRP) sites at Fairchild AFB. Records of Decision (RODs) have been signed for 33 sites. The cleanup progress at Fairchild AFB for FY03 through FY06 is detailed below.

In FY03, the installation completed the feasibility study (FS) for Site SD 37, as well as 5-year review recommendations for various sites. The Air Force pursued privatization of Craig Road Landfill, an off-base Environmental Restoration site; however, privatization was determined not to be in the government's best interest and was no longer considered. The installation initiated preliminary discussion with the WA DOE regarding terminating remedial operations at WP 03.

In FY04, the installation performed significant remedial process optimization (RPO) initiatives at five of the nine remedial action-operation (RA-O) sites. The installation initiated the second 5-year review report preparation. A contract was initiated to perform a Triad remedial investigation (RI)/FS project for SS 39. The installation continued discussion with the WA DOE regarding terminating remedial operations at WP 03.

In FY05, Fairchild AFB initiated significant RPO initiatives at one additional RA-O site and began aggressive optimization at six of the nine RA-O sites. The installation completed the field

effort for a Triad RI at SS 39. This effort defined the nature and extent of trichloroethylene and carbon tetrachloride contamination in the groundwater, and determined that the contamination would not adversely impact the family housing area. The Air Force began the preliminary assessments (PAs) for all identified Military Munitions Response Program (MMRP) sites.

In FY06, Fairchild AFB completed the SS 39 RI and initiated a contract for the FS. The installation initiated exit strategy development at OT 17 and FT 32, and returned remediated soil to the site. The Air Force continued the PAs at all identified MMRP sites.

**FY07 IRP Progress**

Fairchild AFB completed the SS 39 draft final FS and started drafting the proposed plan and ROD. Additional sampling was funded for RW 11 and WP 36 to support a performance-based contract (PBC) award to close these sites. The installation completed and signed no further remedial action planned documents for two areas of concern where no contamination was discovered above action levels during the site inspection (SI). Fairchild AFB completed the second 5-year review. The cost of completing environmental restoration has changed significantly due to changes in estimating criteria.

Completion of the exit strategy at WP 03 was delayed due to technical issues.

**FY07 MMRP Progress**

Fairchild AFB completed PAs at all identified MMRP sites.

**Plan of Action**

Plan of action items for Fairchild Air Force Base are grouped below according to program category.

**IRP**

- Conduct focused evaluation efforts for RW 11 and WP 36 in FY08.
- Complete SS 39 ROD in FY08.
- Award PBC for RW 11, WP 36, and SD 37 in FY08.

**MMRP**

- Continue SIs at all identified MMRP sites in FY08-FY09.

<b>FFID:</b>	WV39799F789200	<b>Funding to Date:</b>	\$ 0.7 million
<b>Size:</b>	12 acres	<b>Est. CTC (Comp Year):</b>	\$ 0.2 million (FY 2015)
<b>Mission:</b>	Manufactured smokeless powder (private party operated a batch chemical plant)	<b>IRP Sites (Final RIP/RC):</b>	1 (FY2015)
<b>HRS Score:</b>	36.3; placed on NPL in September 1983	<b>MMRP Sites (Final RIP/RC):</b>	1 (FY2004)
<b>IAG Status:</b>	None	<b>Five-Year Review Status:</b>	A 5-year review is not required for this installation.
<b>Contaminants:</b>	Organic and inorganic chemicals, metals, dioxin		
<b>Media Affected:</b>	Groundwater and Soil		



Nitro, West Virginia

**Progress To Date**

Fike-Artel Chemical is part of a 16,000-acre former government plant (Powder Plant "C") that manufactured smokeless powder. EPA placed the property on the NPL in September 1983. A letter of agreement was signed in July 2002, modifying the requirements of the Consent Decree of the United States Southern District Court for West Virginia, determining the Army responsible for a percentage of all remedial response actions, including investigations at the site. Environmental restoration sites were grouped into five operable units (OUs): disposal of storage tank and drum contents (OU 1); decontamination and disposal of storage tanks, surface drums, and aboveground structures (OU 2); removal of buried drums (OU 3); remedial investigation (RI) and feasibility study of groundwater and soil (OU 4); and RI of the cooperative sewage treatment (CST) plant (OU 5).

The Army approved the first Military Munitions Response Program (MMRP) project in FY96. The cleanup progress at Fike-Artel Chemical for FY03 through FY06 is detailed below.

In FY03, U.S. Army Corps of Engineers (USACE) completed the soils remedy at the CST Plant, which was leased by the local redevelopment authority as a truck terminal. EPA approved the groundwater pre-remedial design (RD) investigation work plan, and the sampling and analysis plan.

In FY04, work began for the complex groundwater RD. The potentially responsible parties (PRPs) began the work plan for the WWI sewer lines, and included a video inspection of the 66-inch sewer line. In addition, the soil remedy was completed for OU 4 and the CST plant. USACE also completed the archive search report after it received no additional comments.

In FY05, the operations and maintenance (O&M) for OU 4 and the CST plant continued. The PRPs continued the groundwater component of the RD. RD efforts discovered new information with respect to groundwater flow, requiring an increase in the RD effort and removal action remedy.

In FY06, the PRPs initiated a remedial action work plan for groundwater. The OU 4 and CST plant O&M, and the RD for groundwater work continued. USACE completed the 66-inch

and 12-inch sewer line investigations. EPA approved a schedule change and moved the remedy start date to FY06.

**FY07 IRP Progress**

The Army and PRPs completed cleaning of the 66-inch WWI and 12-inch sewer lines. The Phase I groundwater well spacing test along Pickens Road was completed. The Army and PRPs also continued the OU 4 soils O&M and completed the CST project. The cost of completing environmental restoration has changed significantly due to changes in estimating criteria.

USACE completed the Phase I treatment system RD; however, administrative issues delayed the completion of Phase II.

**FY07 MMRP Progress**

No MMRP actions were conducted at this property.

**Plan of Action**

Plan of action items for Fike-Artel Chemical are grouped below according to program category.

**IRP**

- Complete the OU 4 groundwater RD in FY08.
- Complete RD for Phase II groundwater treatment system in FY08.
- Continue Phase I O&M for groundwater treatment system in FY08-FY09.
- Continue OU 4 soils O&M in FY08-FY09.

**MMRP**

There are no MMRP actions scheduled for FY08 or FY09.

<b>FFID:</b>	VA39799F156700	<b>Funding to Date:</b>	\$ 41.5 million
<b>Size:</b>	975 acres	<b>Est. CTC (Comp Year):</b>	\$ 74.1 million (FY 2030)
<b>Mission:</b>	Served as ordnance depot	<b>IRP Sites (Final RIP/RC):</b>	12 (FY2023)
<b>HRS Score:</b>	70.0; placed on NPL in July 1999	<b>MMRP Sites (Final RIP/RC):</b>	1 (FY2010)
<b>IAG Status:</b>	IAG negotiations on hold with EPA concurrence	<b>Five-Year Review Status:</b>	Planned
<b>Contaminants:</b>	TNT, solvents, fuels, pesticides, heavy metals, MEC, SVOCs, VOCs, propellants		
<b>Media Affected:</b>	Groundwater, Surface Water, Sediment, Soil		



Suffolk, Virginia

**Progress To Date**

The Army acquired the Former Nansemond Ordnance Depot (FNOD) between 1917 and 1929 and used the Depot from World War I until November 1950 when the property was leased to the Navy. In 1960, the Army exceded the property and conveyed it to the Beazley Foundation, Inc. Currently, Tidewater Community College (TCC), the General Electric Company (GE), Ashley Capital, Dominion Lands, Inc., Continental Bridgeway Office Park, Bridgeway LP, Suffolk Towers, SYSCO Food Services, Hampton Roads Sanitation District, Lockheed Martin, the City of Suffolk Industrial Development Authority, and Interstate 664 occupy the property. Contaminants identified at the property include TNT, fuels, solvents, pesticides, and munitions and explosives of concern (MEC). In FY97, FNOD held its first Restoration Advisory Board (RAB) meeting. EPA placed the property on the NPL in July 1999 and delisted the impregnite kit area soils from the NPL in FY03. Both the FNOD project delivery team and the statewide FUDS Management Action Plan Partnering team meet monthly. The EPA Region III FUDS Partnering team meets several times throughout the year. FNOD also has a highly effective public affairs work group with representation from regulatory agencies, property owners, and community stakeholders. Additionally, the FNOD RAB meets four times a year.

FNOD consists of approximately 975 acres on the James River at the mouth of the Nansemond River. To date, the U.S. Army Corps of Engineers (USACE) has signed two No Further Action (NFA) Records of Decision (RODs). The cleanup progress at FNOD for FY03 through FY06 is detailed below.

In FY03, EPA delisted the impregnite kit area soils from the NPL. USACE completed remedial investigation (RI) sampling of the TNT area and re-interred the human remains unearthed at the James River Beachfront (JRB) site with an unprecedented outpouring of community support. USACE found that the Track K dump had unanticipated contamination, and was no longer proposed for NFA. USACE completed the time-critical removal action (TCRA) at the TNT area and discovered an additional MEC site at the Nansemond River Beachfront (NRB). Although there is no evidence of chemical weapons materiel (CWM) storage or disposal at FNOD, EPA completed a second round of CWM sampling citing concerns over incomplete site documentation. The sampling yielded no indication of CWM.

In FY04, USACE completed the offshore NFA proposed plan (PP) and ROD. USACE initiated the site inspection (SI) phases of the NRB, the Marine Corps Power Generation Station, and Tracks G, H, and I explosive magazine lines. Negotiations continued with landowners on the land use control implementation plan (LUCIP) memorandum of agreement (MOA). USACE completed the initial site screening process for the GE Pond Area of Concern (AOC).

In FY05, USACE completed the sitewide groundwater conceptual site model investigation, a background sampling report, and FNOD site-specific screening process. USACE also completed near shore SIs for the JRB, and Horseshoe Pond, as well as the human health risk assessment (HHRA) and ecological risk assessment (ERA) for the Track K dump and the Horseshoe Pond. USACE determined that an engineering evaluation and cost analysis for the Pesticide Drum area was inappropriate, and began an HHRA and ERA as part of an RI. USACE also initiated SIs of several AOCs. USACE satisfied the requirements of the FNOD TCRA interagency agreement (IAG) and began drafting the final report. TCC and USACE signed a LUCIP MOA. USACE also modified its MEC work plan.

In FY06, USACE signed a final letter of agreement concerning public information access and interim LUC with the City of Suffolk. The Corps continued RI work at JRB, Horseshoe Pond, Main Burning Ground (MBG), TNT, Pesticide Drum, and Track K Source Area 6. The draft Pesticide Drum Area RI report was submitted for review. USACE completed most of the munitions clearance at MBG, designated two new AOCs (AOC 23-Renovation Plant and AOC 22-Arsenic Area) on TCC property near the Nansemond River, and initiated site screening process investigations at AOCs 12, 14, 15, 20, 22, and 23. EPA completed and accepted the TCRA report. The property found bulk TNT at the NRB, recharacterizing this location as an NPL Source Area. The district held a public meeting for the Track K Dump PP.

**FY07 IRP Progress**

USACE and EPA signed the Track K Dump (NPL Source Area 6) NFA ROD. The property expanded SIs at AOCs 4, 10, and 11 to address contaminants. USACE also submitted a draft

TNT area RI for review. USACE developed an updated FNOD site management plan.

Technical issues delayed the site screening process document; completion of the JRB RI, feasibility study (FS), PP, and public meeting; and completion of the Horseshoe Pond RI. Regulatory issues delayed the Pesticide Drum Area PP, public meeting, and NFA ROD.

**FY07 MMRP Progress**

The property cleared seven remaining MBG grids. Regulatory delays prohibited completion of the shore stabilization and munitions removal at the NRB. Technical issues delayed planned SIs at J and TCC Lakes. Technical issues delayed SI and MEC efforts at the Track A and B Burning Grounds.

**Plan of Action**

Plan of action items for Former Nansemond Ordnance Depot are grouped below according to program category.

**IRP**

- Complete Horseshoe Pond RI and submit draft PP in FY08.
- Complete Pesticide Drum Area PP, public meeting, and NFA ROD in FY08.
- Complete supplemental characterization and submit draft revised MBG RI report for regulatory review in FY08.
- Complete JRB RI/FS, PP, and public meeting in FY08.
- Complete FNOD site screening process document in FY08.

**MMRP**

- Complete munitions investigations at the MBG and NRB area in FY08.
- Initiate shore stabilization FS at the JRB in FY08.
- Complete SI phase investigations at J and TCC Lakes in FY08-FY09.

<b>FFID:</b>	AR621372018700	<b>Est. CTC (Comp Year):</b>	\$ 1.1 million (FY 2003)
<b>Size:</b>	71,359 acres	<b>IRP Sites (Final RIP/RC):</b>	34 (FY2003)
<b>Mission:</b>	Supported light infantry and mobilization missions	<b>MMRP Sites (Final RIP/RC):</b>	1 (FY1999)
<b>HRS Score:</b>	N/A	<b>Five-Year Review Status:</b>	Completed
<b>IAG Status:</b>	None		
<b>Contaminants:</b>	DDT, chlordane, TCE, POLs		
<b>Media Affected:</b>	Groundwater and Soil		
<b>Funding to Date:</b>	\$ 29.8 million		



Fort Chaffee, Arkansas

## Progress To Date

When in operation, Fort Chaffee supported light infantry and mobilization missions. In July 1995, the BRAC Commission recommended closure of Fort Chaffee, except for the minimum essential buildings and ranges for a Reserve component training enclave. Primary site types include underground storage tanks, a fire training area, landfills, and hazardous waste and hazardous material storage areas. Primary contaminants of concern include petroleum/oil/lubricants (POLs) in groundwater and soil; solvents in groundwater; and pesticides in soil. The community formed a local redevelopment authority (LRA) in FY95. In FY96, the installation formed a BRAC cleanup team (BCT) and a Restoration Advisory Board (RAB). The installation closed in FY97. In FY99, the installation completed all previously funded work on the enclave sites, passing full responsibility for the sites to the National Guard. In FY04, the installation closed out the BCT and the RAB. The Army completed 5-year reviews for FTCH 001 and 032 in FY06.

The BRAC parcel available for transfer was approximately 7,037 acres. To date, the Army has completed nine Records of Decision (RODs). Seven of the signed RODs included no further action (NFA) provisions. In FY03, the Army completed an inventory of all Military Munitions Response Program (MMRP) sites. The cleanup progress at Fort Chaffee for FY03 through FY06 is detailed below.

In FY03, the installation briefed stakeholders on the land use control implementation plan (LUCIP) for FTCH 001, 013, 21E, and 032, and subsequently completed the document. The installation signed ROD VI, which included NFA for FTCH 013 and 045, and specified an industrial use control and 5-year reviews for FTCH 013. The installation signed finding of suitability to transfer V to facilitate the transfer of the remaining acreage at Fort Chaffee. The Army completed the BRAC closed, transferred, and transferring range and site inventory report for Fort Chaffee. All six areas addressed in the report are part of FTCH 48C, a site listed as response complete. Of these six areas, four are low risk and two are negligible risk.

In FY04, the Fort Chaffee Base Transition Team (BTT) provided stakeholders, including the City of Fort Smith, Sebastian County, and the Fort Chaffee LRA, with the supporting documents for the completed LUCIP. The BTT also

issued the first FTCH 21E annual groundwater monitoring report and reviewed it with the BCT and RAB. The Army closed out the BCT and RAB. The installation shipped administrative files to the Army Environmental Center and closed the environmental site office.

In FY06, the installation completed the 5-year reviews for landfills FTCH 001 and 032.

## FY07 IRP Progress

Fort Chaffee submitted the first 5-year reviews for FTCH 013 and 21E to EPA and the Arkansas Department of Environmental Quality for concurrence. The Army recommended conducting three more years of monitoring, in response to a threshold exceedance for trichloroethylene (TCE) in one of the monitoring wells. The additional monitoring will include three surface water samples and three groundwater monitoring wells to be sampled for volatile organic compounds (VOCs) annually through 2010. At the end of this period, the data will be evaluated with respect to the protectiveness of the remedy to support the most recent installationwide 5-year review. The Army permanently closed groundwater monitoring wells at FTCH 001 and 032. The cost of completing environmental restoration has changed significantly due to changes in estimating criteria.

## FY07 MMRP Progress

The Army conducted no MMRP actions at this installation.

## Plan of Action

Plan of action items for Fort Chaffee are grouped below according to program category.

### IRP

- Finalize the 5-year review for FTCH 013 and 21E in FY08.
- Continue groundwater and surface water monitoring at Site 21E in FY08.

### MMRP

There are no MMRP actions scheduled for FY08 or FY09.

<b>FFID:</b>	MO79799F034700	<b>Media Affected:</b>	Groundwater and Soil
<b>Size:</b>	42,786 acres	<b>Funding to Date:</b>	\$ 2.2 million
<b>Mission:</b>	Served as World War II Signal Corps training facility; Korean conflict-era reception station; disciplinary barracks; Atlas missile rocket engine manufacture and testing facility; and jet engine and component manufacture and repair facility	<b>Est. CTC (Comp Year):</b>	\$ 0.9 million (FY 2011)
<b>HRS Score:</b>	50.00; placed on NPL in October 1999	<b>IRP Sites (Final RIP/RC):</b>	3 (FY2011)
<b>IAG Status:</b>	None	<b>MMRP Sites (Final RIP/RC):</b>	1 (FY2010)
<b>Contaminants:</b>	VOCs, TCE, carbon tetrachloride	<b>Five-Year Review Status:</b>	A 5-year review is not required for this installation.



**Newton County, Missouri**

**Progress To Date**

The Army used the former Fort Crowder during World War II as a Signal Corps training center and again during the Korean conflict as a reception station. The property is located near the city of Neosho, in southwestern Missouri. In 1956, approximately 3,650 acres were transferred to the Air Force for the establishment of Air Force Plant (AFP) 65. Approximately 4,358 acres were leased to the Missouri National Guard for a training facility, known as Camp Crowder. AFP 65 operated until 1968 as an Atlas missile manufacturing and testing facility, and later, until 1980, as a jet engine overhaul and testing facility. AFP 65 was a government-owned, contractor-operated facility. EPA placed the property on the NPL in October 1999. In FY99, the U.S. Army Corps of Engineers (USACE), Kansas City District, signed two administrative orders on consent for removal actions.

The cleanup progress for Fort Crowder for FY03 through FY06 is detailed below.

In FY03, USACE provided support to the Department of Justice (DOJ), planned and negotiated two additional engineering studies, and monitored work done by private potentially responsible parties (PRPs). Settlement discussions between USACE and DOJ continued. DoD completed a geophysical study of a potential chemical warfare material (CWM) site. In addition, DoD initiated a review of potential military munitions and CWM areas.

In FY04, USACE provided technical and legal support to DOJ, monitored several source area investigations and removal actions, and began planning a remedial investigation and feasibility study (RI/FS). Efforts continued with DOJ to obtain settlement of DoD liability for non-Military Munitions Response Program (MMRP) restoration. USACE completed intrusive investigations of the potential CWM site.

In FY05, USACE assisted in planning and oversight of the installation of a soil vapor extraction system at Quince Road Area. USACE and the Pools Prairie PRP group began planning a pre-RI/FS investigation and continued negotiating the administrative order. USACE continued monitoring removal actions executed by other PRPs and providing technical and

legal support to DOJ in support of settlement discussions with PRPs. USACE completed the site investigation phase for the MMRP/CWM scoping security study.

In FY06, USACE performed execution oversight on three administrative orders. USACE also completed the planning and estimating phase of the pre-RI/FS investigation. Legal and technical support to DOJ continued. USACE completed the remedial action construction phase with the educational awareness training of local stakeholders. USACE also initiated the programmatic MMRP/CWM RI/FS and remedial action construction phase.

**FY07 IRP Progress**

USACE continued to provide technical and legal support to DOJ for settlement actions. USACE and National Guard Bureau monitored the execution of pre-RI/FS investigation plans and USACE continued performance monitoring on three removal actions. The cost of completing environmental restoration has changed significantly due to estimating criteria.

**FY07 MMRP Progress**

USACE completed the RI/FS investigation and began 30-year long-term management (LTM) for MMRP/CWM.

**Plan of Action**

Plan of action items for Fort Crowder are grouped below according to program category.

**IRP**

- Continue technical and legal support to DOJ for settlement actions in FY08.
- Continue monitoring execution of pre-RI/FS investigation plans in FY08.
- Continue performance monitoring on three removal actions in FY08.

**MMRP**

- Continue LTM in FY08.

<b>FFID:</b>	MA121042027000	<b>Funding to Date:</b>	\$ 148.4 million
<b>Size:</b>	9,302 acres	<b>Est. CTC (Comp Year):</b>	\$ 34.7 million (FY 2030)
<b>Mission:</b>	Supported Reserve component training	<b>IRP Sites (Final RIP/RC):</b>	76 (FY2015)
<b>HRS Score:</b>	42.24; placed on NPL in November 1989	<b>MMRP Sites (Final RIP/RC):</b>	11 (FY2011)
<b>IAG Status:</b>	IAG signed in November 1991	<b>Five-Year Review Status:</b>	Completed and planned
<b>Contaminants:</b>	VOCs, heavy metals, petroleum products, PCBs, pesticides, herbicides, explosive compounds		
<b>Media Affected:</b>	Soil and Groundwater		



Fort Devens, Massachusetts

## Progress To Date

In July 1991, the BRAC Commission recommended that Fort Devens close and establish a Reserve enclave. In FY96, the Army closed Fort Devens, replacing it with the Devens Reserve Forces Training Area (DRFTA), which assumed the remaining Army mission. As of 2006 DRFTA is also referred to as Fort Devens. EPA placed the installation on the NPL in 1989. The Army and EPA signed an interagency Federal Facilities Agreement (FFA) in November 1991. In 2005, the BRAC Commission recommenced Fort Devens for realignment. Identified sites included landfills, vehicle and equipment maintenance and storage yards, the Defense Reutilization and Marketing Office scrap yard, motor pools, and underground storage tanks (USTs). Investigations revealed soil and groundwater contamination. In FY94 and FY95, the Army investigated training areas and ranges for possible unexploded ordnance (UXO) and completed all UXO removal actions. In FY94, the installation formed a Restoration Advisory Board and a BRAC cleanup team. Beginning in FY95, the installation conducted several interim actions, including removal of USTs and installation of a soil vapor extraction system. The Army signed an Environmental Services Cooperative Agreement (ESCA) with the Local Redevelopment Authority (LRA) in FY01. Fort Devens completed 5-year reviews in FY00 and FY05.

Environmental investigations have identified Installation Restoration Program (IRP) sites. The Army and EPA have signed multiple Records of Decision (RODs). The Army, EPA, and the State have addressed numerous sites under No Further Action (NFA) Decision Documents (DDs) in accordance with the FFA. At this time, the Army has conveyed 2,902 acres to the Local Redevelopment Authority, 22 acres to the U.S. Department of Labor; 222 acres to the U.S. Bureau of Prisons; and 836 acres to the U.S. Fish and Wildlife Service. In FY03, the Army completed an inventory of all Military Munitions Response Program (MMRP) sites. The cleanup progress at Fort Devens for FY03 through FY06 is detailed below.

In FY03, the installation completed the final feasibility study (FS) and draft ROD for area of concern (AOC) 50. Pesticide-contaminated soils were removed from beneath demolished installation housing areas. Construction at the Fort Devens consolidated landfill was completed and closeout reports were approved. The BRAC and DRFTA portion of the

closed, transferred, and transferring (CTT) range inventory was completed. The Army identified MMRP sites located on the DRFTA property.

In FY04, the installation completed remedial actions (RAs) and the Final Interim Closeout Report for AOC 57. The Army approved the AOC 50 ROD. Approval was obtained for the NFA DD for AREE 69 AE, North Post oil spill. The installation transferred leased parcel A.1C and Lot 9. The Army completed remedial design and construction of the Shepley's Hill Landfill (SHL) pump-and-treat contingency remedy.

In FY05, the installation implemented operation of the groundwater contingency remedy for SHL and awarded a performance-based contract (PBC) for Supplemental Groundwater and Landfill Cap Assessments (SGLCA) under the long-term management (LTM) remedy phase. The Army achieved remedy in place and completed the RA work plan and land use control (LUC) plan for AOC 50 (former North Post / Airfield). Fort Devens sampled for perchlorate in the South Post Impact Area monitoring wells. The Army completed the second 5-year review for all BRAC sites and transferred lease parcels A.2A, A.4, and A.8.

In FY06, the installation initiated a PBC for ongoing long-term management and optimization at six AOCs. The installation completed the SGLCA work plans and continued the SHL remedy operation and optimization, as well as the PA/site inspection (SI) and supplemental SI for the Grant Housing Areas. The installation also initiated a process for development of LUCs associated with a former range area within the Grant Housing Area and completed a time-critical removal action involving the remediation of lead-contaminated soils. The Army transferred leased parcel A.16 (AREE 69AE), obtained operating properly and successfully (OP&S) approval for the AOC 69W remedy, and completed the finding of suitability to transfer for AOC 69W (Parcel A.15). For the MMRP, the Army awarded a PBC and initiated planning phase activities for performing an SI on sites identified in the CTT inventory report at DRFTA.

## FY07 IRP Progress

Fort Devens awarded a PBC for the long-term operation and maintenance of the SHL contingency pump-and-treat remedy.

Fieldwork was completed on the SGLCA. EPA provided an OP&S certification for the AOC 50 remedy. The Army completed a revised LTM Plan for the remaining six AOC sites in the LTM remedy phase. A draft FS for implementing LUCs at a former range within the Grant Housing Area is undergoing regulatory and LRA review. The Army transferred leased Parcel A.15 and completed remediation of pesticide-contaminated soils at the former Buena Vista Housing Area. The cost of completing environmental restoration has changed significantly due to technical and regulatory issues.

The installation did not complete property transfer for Parcel A.6A (AOC 57) due to regulatory issues. Funding issues delayed a property transfer of Parcel A.5 (AOC 50 Source Area). Technical and regulatory issues delayed the OP&S certification of AOC 57 remedy and the completion of the FS and ROD for the LUCs associated with the Grant Housing Area.

## FY07 MMRP Progress

The installation completed the draft MMRP SI work plan and submitted the plan to stakeholders and received comments.

## Plan of Action

Plan of action items for Fort Devens are grouped below according to program category.

### IRP

- Finalize the FS and complete final proposed plan (PP) and ROD for LUCs at the former Grant Housing Area in FY08.
- Complete draft remedial investigation/FS work plan for AOC 72 (Plow Shop Pond) in FY08.
- Complete draft report for the SHL Supplemental Groundwater and Landfill Cap Assessment in FY08.
- Complete the pesticide-contaminated soil remediation at the former housing areas in FY08.

### MMRP

- Complete final MMRP SI work plan in FY08.

<b>FFID:</b>	NJ221042027500	<b>Funding to Date:</b>	\$ 16.2 million
<b>Size:</b>	30,638 acres	<b>Est. CTC (Comp Year):</b>	\$ 19.2 million (FY 2039)
<b>Mission:</b>	Provide training and Reserve support	<b>IRP Sites (Final RIP/RC):</b>	39 (FY2008)
<b>HRS Score:</b>	37.40; placed on NPL in July 1987	<b>MMRP Sites (Final RIP/RC):</b>	7 (FY2017)
<b>IAG Status:</b>	FFA signed in September 1991	<b>Five-Year Review Status:</b>	Completed and planned
<b>Contaminants:</b>	VOCs, POLs, chlorinated solvents, PCBs, heavy metals, SVOCs		
<b>Media Affected:</b>	Groundwater, Surface Water, Sediment, Soil		



Pemberton Township, New Jersey

## Progress To Date

Remedial investigation (RI) of the Fort Dix Sanitary Landfill (LF) began in 1979, leading to the installation of groundwater monitoring wells around the perimeter. Due to the identified contamination, EPA placed the Sanitary LF on the NPL in 1987. In FY89, the installation identified contamination at storage areas, motor pools, abandoned underground storage tanks (USTs), LFs, lagoons, impact areas, and an incinerator. Contaminants identified include heavy metals, volatile organic compounds (VOCs), petroleum/oil/lubricants (POLs), and chlorinated solvents. The Army and EPA signed a federal facility agreement (FFA) in September 1991. In FY95, the BRAC Commission recommended realignment of Fort Dix, with retention of land and facilities for Reserve component training. In 2005, the BRAC Commission recommended Fort Dix for realignment. The installation formed a Restoration Advisory Board in FY96. In FY00, the Army petitioned EPA to remove the Sanitary LF from the NPL. The installation completed 5-year reviews for the Sanitary LF in FY99 and FY05.

The installation has completed nine Records of Decision to date. In FY89, the installation performed site characterization and field screening at 16 sites and, in 1993, identified 42 areas requiring environmental evaluation. In FY97, the installation removed 80 abandoned USTs and began evaluating the contaminated sites. In FY99, the Sanitary LF was added to EPA's construction complete list. In FY03, the Army completed an inventory of all Military Munitions Response Program (MMRP) sites. The cleanup progress at Fort Dix for FY03 through FY06 is detailed below.

In FY03, the Army included Magazine 1 Site, the Armament Research and Development Center Site, leaking USTs 5390, 7061, and golf course leaking USTs in a contract for remediation of 14 sites at Fort Dix. Fort Dix continued to pursue deletion of the Sanitary LF from the NPL. The installation continued long-term monitoring at the Sanitary LF. The Army completed the inventory of closed, transferred, and transferring (CTT) ranges and sites with unexploded ordnance, discarded military munitions, or munitions constituents for the active portion of the installation. MMRP sites were identified at this installation.

In FY04, the installation awarded a guaranteed fixed-price remediation contract to conduct remediation at 14 sites. The installation submitted remedial action work plans and RI reports to the regulators and completed soil removals at two sites. The installation continued long-term management at the Sanitary LF. The installation completed, and regulators approved, the draft final RI report for the New Egypt Armory site, and an interim removal action of polychlorinated biphenyl (PCB)-contaminated soils was initiated. The installation submitted the draft RI report for the former Pesticide Control Shop to the regulators for comment. Fort Dix initiated a 5-year review for the Sanitary LF and continued to pursue its deletion from the NPL.

In FY05, the installation completed a 5-year review of the Fort Dix Sanitary LF, as well as soil remediation at the New Egypt Armory site. The installation continued remediation at 14 Fort Dix sites.

In FY06, the installation continued remediation at the 14 Fort Dix sites under the guaranteed fixed-price remediation contract. The installation completed in situ treatment of the Taxi Stand Plume. The Army continued the installationwide classification exception area groundwater sampling. The installation began sentinel well installation at the Sanitary LF and pursued NPL delisting.

## FY07 IRP Progress

Fort Dix continued remediation at the 14 Fort Dix sites under the guaranteed fixed-price remediation contract. The Army continued the installationwide classification exception area groundwater sampling. The installation completed the RI and feasibility study (FS) reports for the Pesticide Control Shop and submitted them to the regulators. The installation also completed the draft RI reports for Range LF and ANC 2 Disposal Area and submitted work plans to the regulators. In addition, the installation sampled the Taxi Stand Plume and amended the RI report. The project report was submitted to the regulators. Fort Dix postponed the installation of sentinel wells at the Sanitary LF, NPL delisting, and manganese discussions, which will be conducted as part of a future Performance Based

Contract. The focused FS for the Range LF and ANC 2 Disposal Area is delayed due to regulatory issues.

## FY07 MMRP Progress

Fort Dix completed the Historical Records Review for CTT ranges and this document was approved by the regulators. The installation completed the Site Investigation (SI) Work Plan and the SI for CTT Ranges.

## Plan of Action

Plan of action items for Fort Dix are grouped below according to program category.

### IRP

- Receive regulatory approval for RI and FS for Pesticide Control Shop in FY08.
- Respond to comments and receive approval for RIs for Range LF and ANC 2 Disposal Area in FY08.
- Complete the focused FS for Range LF and ANC 2 Disposal Area in FY08.

### MMRP

There are no MMRP actions scheduled for FY08 or FY09.

<b>FFID:</b>	NJ221402027500	<b>Est. CTC (Comp Year):</b>	\$ 0.0 million (FY 2001)
<b>Size:</b>	31,065 acres	<b>IRP Sites (Final RIP/RC):</b>	4 (FY2001)
<b>Mission:</b>	Provided training and mobilization	<b>MMRP Sites (Final RIP/RC):</b>	1 (FY2000)
<b>HRS Score:</b>	N/A	<b>Five-Year Review Status:</b>	A 5-year review is not required for this installation.
<b>IAG Status:</b>	FFA signed in 1991		
<b>Contaminants:</b>	Chlorinated solvents, heavy metals, PCBs, asbestos		
<b>Media Affected:</b>	Groundwater and Soil		
<b>Funding to Date:</b>	\$ 30.7 million		



Pemberton Township, New Jersey

**Progress To Date**

In July 1995, the BRAC Commission recommended the realignment of Fort Dix and the transfer of excess property. Prior to being slated for closure, Fort Dix BRAC properties supported training and mobilization efforts for the Army. The Army signed a federal facility agreement (FFA) in 1991. In FY95, the installation formed a BRAC cleanup team and began developing an Environmental Baseline Survey and a BRAC cleanup plan, which were both completed in FY97. The installation formed a Restoration Advisory Board (RAB) in FY96.

In FY03, the Army completed an inventory of all Military Munitions Response Program (MMRP) sites on BRAC property. The cleanup progress at Fort Dix BRAC for FY03 through FY06 is detailed below.

In FY03, the installation completed asbestos abatement at the Walson Hospital complex and received EPA concurrence on the closeout report. The installation began a site inspection (SI) of electrical transformer locations at the Federal Corrections Institute (FCI). The Army completed the closed, transferred, and transferring ranges and sites inventory for the BRAC portion of the installation. The inventory identified no MMRP sites on the BRAC property.

In FY04, the installation completed SI fieldwork at Walson Hospital. The Army removed Walson Hospital from the list of excess BRAC properties; choosing instead to retain the property. The installation prepared a draft field investigation and remedy selection report for the transformer SI at the FCI.

In FY05, the installation completed the SI, field investigation, and remedy selection report. Polychlorinated biphenyls (PCBs) were detected at two transformer locations. The installation continued to coordinate with the RAB and regulators.

In FY06, the installation prepared draft plans describing the implementation of the remediation at the two transformer locations and additional SI work in the 5600 Area. The installation completed the decision documents for the field investigation and the remedy selection report.

**FY07 IRP Progress**

Fort Dix BRAC did not complete the deed notice for Facility 5675 due to contractual and administrative delays. Additionally, contractual and funding issues delayed Phase II SI for the 5600 Area.

**FY07 MMRP Progress**

The Army conducted no MMRP actions at this installation.

**Plan of Action**

Plan of action items for Fort Dix BRAC are grouped below according to program category.

**IRP**

- Finalize Phase II SI for the 5600 Area in FY08.
- Complete deed notice for Facility 5675 in FY08.
- Complete PCB remediation at the FCI in FY08.
- Initiate response action at 5600 Area in FY08-FY09.

**MMRP**

There are no MMRP actions scheduled for FY08 or FY09.

<b>FFID:</b>	VA321372032100	<b>Media Affected:</b>	Groundwater, Surface Water, Sediment, Soil
<b>Size:</b>	8,248 acres	<b>Funding to Date:</b>	\$ 52.7 million
<b>Mission:</b>	Serve as host to the Army Transportation Center; provide training in all modes of transportation, including rail and marine; aviation maintenance; involved in amphibious operations	<b>Est. CTC (Comp Year):</b>	\$ 51.4 million (FY 2017)
<b>HRS Score:</b>	50.00; placed on NPL in December 1994	<b>IRP Sites (Final RIP/RC):</b>	28 (FY2010)
<b>IAG Status:</b>	FFA under negotiation	<b>MMRP Sites (Final RIP/RC):</b>	12 (FY2017)
<b>Contaminants:</b>	PCBs, VOCs, pesticides, heavy metals, SVOCs, petroleum products	<b>Five-Year Review Status:</b>	Planned



Newport News, Virginia

## Progress To Date

Fort Eustis, home to the Army Transportation Center, is where soldiers receive education and training in all modes of transportation, aviation maintenance, logistics and deployment doctrine, and research. EPA placed the installation on the NPL in December 1994. The 2005 BRAC Commission recommended the realignment of Fort Eustis garrison functions as part of the Joint Basing effort. Identified sites include landfills, underground storage tanks (USTs), pesticide storage areas, range/impact areas, and surface impoundments. The migration of contaminants from some sites to creeks and estuaries, and the potential migration through surface water and the upper water table to the James River are the greatest concerns at the installation. Analysis of samples indicated the presence of polychlorinated biphenyls (PCBs), pesticides, polycyclic aromatic hydrocarbons (PAHs), and lead in surface water and sediment. During FY96, the installation established an administrative record and set up information repositories at three local libraries. The Agency for Toxic Substances and Disease Registry published a final public health assessment that indicated that the Fort Eustis NPL site poses no apparent risk to public health. To date, there has been little public interest for the formation of a Restoration Advisory Board. Since FY00, two technical review committee meetings have been held each year off-post that are open to the public. The installation updated its community relations plan in FY06.

Investigations have identified Installation Restoration Program (IRP) sites at the installation. The Army and EPA have signed three Records of Decision (RODs) to date. In FY03, the Army completed an inventory of all Military Munitions Response Program (MMRP) sites. The cleanup progress at Fort Eustis for FY03 through FY06 is detailed below.

In FY03, the installation completed the remedial action (RA) at the pesticide storage area (DOL Yard). The Army signed the final ROD for the Oil Sludge Holding Pond and awarded an RA contract. The installation submitted the Bailey Creek draft feasibility study (FS). The installation continued free product recovery and initiated liquid vapor extraction (LVE) at the Army-Air Force Exchange Service (AAFES) and the Helicopter Maintenance Area (HMA). The methane soil vapor extraction (SVE) system continued to operate at Landfill (LF) 7. The Army awarded a contract for preparation of a 50 percent design stage

for the final cap renovation of LF 15. The Army submitted the federal facility agreement (FFA) for regulatory review; however, the FFA was not signed due to a land use control dispute. The Army completed the Closed, Transferring and Transferred (CTT) range and site inventory report. MMRP sites were identified at this installation.

In FY04, the installation completed the draft remedial investigation for Felker Airfield and the DOL Yard long-term management (LTM) plan. The installation conducted monthly LVE events at AAFES Service Station and at HMA, and continued operation of the SVE system at LF 7. The installation completed an explanation of significant differences to amend the ROD for the Oil Sludge Holding Pond Site. The installation initiated the treatability study (TS) at the fire training area (FTA) and completed the LF 15 cap renovation and repair project. The Army revised and resubmitted the FFA. The installation completed RA fieldwork at the Oil Sludge Holding Pond and conducted sampling at Eustis Lake to support the FS.

In FY05, the installation conducted monthly LVE events at AAFES Service Station and monthly monitoring at the HMA. Additionally, the Army continued operation of the SVE system at LF 7. The installation completed a proposed plan (PP) for Brown's Lake and submitted a ROD to the regulators. The Army prepared a supplemental site evaluation report for Milstead Island Creek, which recommended no further action (NFA). A groundwater and soil TS was initiated at the FTA site. The installation initiated a Vegetative Management Program for LF 15 to lower maintenance costs, establish native vegetation, and improve wildlife habitat. The Army submitted a draft LTM plan for the Oil Sludge Holding Pond Site for regulatory comment. The installation held an MMRP kick-off meeting with the Army, regulatory agencies, and the awarded contractor. The installation initiated the site inspection (SI) at CTT ranges under the MMRP.

In FY06, the installation received a contract award for LTM at LF 15. The Army prepared an NFA PP for Milstead Island Creek. The installation prepared a preliminary draft FS for the FTA site. The Army completed the LTM plan for the Oil Sludge Holding Pond Site. The Army also requested proposals on a performance-based contract (PBC) for environmental remediation services, which included six installation sites (FTA, Oil Sludge Holding Pond, DOL Storage Yard, Brown's Lake,

Bailey Creek, and Eustis Lake). The installation conducted SIs at MMRP sites and completed the historical records review report. Fort Eustis also submitted the draft SI work plan for regulatory review.

## FY07 IRP Progress

Fort Eustis awarded a PBC for environmental remediation services at six sites (FTA, Oil Sludge Holding Pond, DOL Yard, Brown's Lake, Bailey Creek, and Eustis Lake). The installation achieved site close-out at HMA and received regulator concurrence to terminate operation of the SVE system at LF 7. A work plan and additional sampling was completed at Bailey Creek to support the FS evaluation. The Third Port UST site final SI report, the Eustis Lake draft final FS, the FTA draft work plan, LFs 1 and 7 draft final PP, and Milstead Island Creek NFA ROD were submitted for regulatory review. The Army signed the final ROD for Brown's Lake. The final SI report for the Third Post UST was completed and submitted to the regulators. Based on the analytical results, it was determined no additional investigations were warranted and the site will not proceed to the remedial investigation phase; therefore, a NFA decision document was not required.

## FY07 MMRP Progress

The installation finalized the MMRP SI report and recommended that seven sites proceed to the RI phase. A RI/FS contract was awarded for the 1000 foot Rifle Range.

## Plan of Action

Plan of action items for Fort Eustis are grouped below according to program category.

### IRP

- Complete 5-year review in FY08.
- Complete RA at Brown's Lake in FY08.
- Complete FS for Bailey Creek, Eustis Lake, and FTA in FY08.

### MMRP

- Complete RI field activities at the 1000 foot Rifle Range in FY08.

<b>FFID:</b>	MD321022056700	<b>Media Affected:</b>	Surface Water, Soil, Groundwater
<b>Size:</b>	5,142 acres	<b>Funding to Date:</b>	\$ 84.4 million
<b>Mission:</b>	Served as administrative post for various DoD tenants	<b>Est. CTC (Comp Year):</b>	\$ 24.4 million (FY 2024)
<b>HRS Score:</b>	52.0; placed on NPL in July 1998; Tipton Airfield delisted from NPL in November 1999	<b>IRP Sites (Final RIP/RC):</b>	42 (FY2015)
<b>IAG Status:</b>	Federal Facility Agreement under negotiation	<b>MMRP Sites (Final RIP/RC):</b>	9 (FY2017)
<b>Contaminants:</b>	Chlorinated solvents, metals, munitions and explosives of concern, petroleum hydrocarbons, VOCs, SVOCs, explosives, propellants	<b>Five-Year Review Status:</b>	Completed and planned



Fort Meade, Maryland

## Progress To Date

In December 1988, the BRAC Commission recommended closing the Fort Meade range and training areas and realigning Fort Meade as an administrative center. The National Security Agency is the primary tenant. Investigations beginning in FY88 identified several areas of concern, including landfills, petroleum and hazardous waste storage areas, aboveground storage tanks, underground storage tanks, asbestos-containing material in structures, and unexploded ordnance. The installation formed a BRAC cleanup team in FY94 and a Restoration Advisory Board (RAB) in FY95. In July 1995, the Commission recommended additional realignment, reducing Kimbrough Army Community Hospital to a clinic. EPA placed Fort Meade on the NPL in July 1998. EPA delisted the Tipton Airfield parcel from the NPL in November 1999. The installation completed a 5-year review in FY05.

To date, the Army has completed three No Further Action Records of Decision, two for Tipton Airfield and one for the clean fill dump. In FY04, the Army completed an inventory of all Military Munitions Response Program (MMRP) sites. The cleanup progress at Fort Meade for FY03 through FY06 is detailed below.

In FY03, the installation completed the feasibility study (FS) and proposed plan (PP) for ordnance demolition area (ODA). Long-term monitoring activities for the BRAC parcel continued. The 5-year review for Tipton Airfield was underway. The installation initiated remedial investigation (RI) work plans for many of the CERCLA solid waste management unit (SWMU) sites. The installation completed the BRAC closed, transferred, and transferring (CTT) range and site inventory. The Army initiated a non-time-critical removal action (NTCRA) at the Patuxent Research Refuge (BRAC Parcel).

In FY04, the installation continued long-term management activities for the BRAC parcel, completed the remaining RI work plans for the CERCLA SWMUs, and initiated RI fieldwork for four sites. The RI effort at Fort George G. Meade (FGGM) 17 (Closed Sanitary Landfill) and 86 continued. The Army initiated an installationwide evaluation of historical impacts associated with past disposal practices and an environmental engineering and cost analysis (EE/CA) fieldwork for the former trap and skeet range. The installation completed the focused FS for the

Defense Reutilization and Marketing Office (DRMO) groundwater plume - also referred to as Operable Unit (OU) 5 - and opened an investigation of FGGM 13 (Former Pesticide Shop). Preparations for the initiation and implementation of the performance-based contract (PBC) strategy continued. The Army completed the CTT range and site inventory for the active portion of Fort Meade under the MMRP. The MMRP inventory evaluated six areas and proposed two for additional evaluation.

In FY05, Fort Meade completed the 5-year review for the Tipton Airfield BRAC parcel and began work on the 5-year review for the Clean Fill Dump BRAC parcel. The installation submitted the decision document for the ODA BRAC site and the draft Closed Sanitary Landfill RI report for stakeholder review. The installation continued negotiations with EPA on the federal facility agreement (FFA). Additionally, the installation awarded the PBC for 11 sites, including the DRMO and the Trap and Skeet Range. Fort Meade completed the NTCRA at the Patuxent Research Refuge. The installation held monthly RAB meetings and regulatory partnership meetings as needed.

In FY06, Fort Meade completed the installation of additional monitoring wells to characterize the groundwater condition for the DRMO. Investigation of Operable Unit (OU) 4 continued under the PBC. The Army completed a draft EE/CA for Trap and Skeet range. The installation also completed the comprehensive evaluation of all historical data and cleanup at the Former Battery Shop. The Army continued FFA negotiations with EPA. The installation continued investigations at the Former Pesticide Shop. Fort Meade completed the historical records review for possible historical MMRP activities at the installation and began the site inspections (SIs) at the MMRP sites.

## FY07 IRP Progress

Fort Meade continued long-term management/land use control inspections, methane recovery, and RI field investigations. The installation completed a draft Human Health Risk Assessment report for the former Trap and Skeet Range, draft Site Conceptual Model report for the former Troop Housing Boiler Plant, draft RI report for the interim remedial action and Southeastern Groundwater sites, and a draft Technical Memorandum for the Architect of the Capital site. The Army completed the draft final preliminary assessment/SI report for

the entire installation and the RI for the Closed Sanitary LF. Final regulatory approval was received for the Granite Nike site. The installation continued FFA negotiations with EPA.

Completion of the RIs for OU 4 (Southeastern Groundwater) and Manor View Dump Site were delayed due to technical and regulatory issues. Completion of the FSs for the Closed Sanitary LF, OU 5 (DRMO), and former Pesticide Shop were delayed due to technical and regulatory issues. In addition, the PBC for OU 4 RI and the Manor View Dump Site RI were delayed due to technical issues.

The installation continued to hold RAB meetings.

## FY07 MMRP Progress

The installation completed the MMRP SI which identified one site, the former Mortar Range. The geophysical prove-out work plan and fieldwork for the RI were completed.

## Plan of Action

Plan of action items for Fort George G. Meade are grouped below according to program category.

### IRP

- Complete the RI for the former Pesticide Shop and Manor View Dump Site in FY08.
- Complete the FS for the former Pesticide Shop, and Manor View Dump Site in FY08.
- Complete PPs and RODs for the DRMO, former Pesticide Shop, and Architech of the Capitol sites in FY08-FY09.
- Complete PBC requirements (FS or remedial Design) for OU 4, DRMO, former Trap and Skeet range, and Nike Sites in FY08-FY09.
- Determine need for the Closed Sanitary LF FS in FY08-FY09.

### MMRP

- Complete RI of the former Mortar Range in FY08-FY09.

<b>FFID:</b>	GA421402004600	<b>Funding to Date:</b>	\$ 32.3 million
<b>Size:</b>	1,426 acres	<b>Est. CTC (Comp Year):</b>	\$ 8.5 million (FY 2028)
<b>Mission:</b>	Supported FORSCOM readiness missions	<b>IRP Sites (Final RIP/RC):</b>	14 (FY2009)
<b>HRS Score:</b>	N/A	<b>MMRP Sites (Final RIP/RC):</b>	None
<b>IAG Status:</b>	None	<b>Five-Year Review Status:</b>	Completed
<b>Contaminants:</b>	Metals, PAHs, VOCs, pesticides, POLs, chlorinated solvents, SVOCs		
<b>Media Affected:</b>	Groundwater, Surface Water, Sediment, Soil		



Forest Park, Georgia

## Progress To Date

Fort Gillem, a sub-installation of Fort McPherson, was recommended for closure by the 2005 BRAC Commission. The installation comprises approximately 1,426 acres and is surrounded by residential and commercial properties. Fort Gillem supports Army Forces Command (FORSCOM) readiness missions and is home for many FORSCOM and Fort McPherson activities. The Eastern Distribution Region of the Army and Air Force Exchange Service uses approximately 60 acres for storage. Fort Gillem also supports the Federal Emergency Management Agency disaster relief activities by providing warehouse and office space. In 2001, 27,000 tons of lead-contaminated soil and 4,000 tons of VOC-contaminated soil were excavated at the Northern Landfill Area.

The Army completed an inventory of all Military Munitions Response Program (MMRP) sites. The cleanup progress at Fort Gillem for FY03 through FY06 is detailed below.

In FY03, the installation further defined the source areas at FTG 01 and conducted an additional remedial investigation (RI) for FTG 07.

In FY04, the installation conducted a focused investigation on the MW 48A area at FTG 01. The Army completed a focused feasibility study (FS) for the FTG 07 site and an FS for the FTG 09 site.

In FY05, the Army awarded a performance-based contract for FTGs 01, 04, 07, 09, 10, and 13. The remaining restoration sites: FTGs 02, 03, 05, 06, 08, and 14 have been recommended for no further action (NFA) based on the site investigation, pending concurrence/approval from the Georgia Environmental Protection Division (GA EPD).

In FY06, the Army initiated preparation of an environmental condition of property (ECP) report and a CERFA report in response to the BRAC 2005 recommendations for closure of the installation. Fort Gillem completed a focused FS for the cleanup strategy at FTG 01 (Operable Units A, B, H, and I). The Army developed RI work plan to address data gaps at FTG 01. Fort Gillem prepared remedial design documents for interim remedial measures to address source removals at FTGs 01 and 09. The Army prepared RI reports for FTGs 04, 07, 09,

and 10. Additionally, the installation evaluated the groundwater monitoring network and the off-site well survey. Fort Gillem had no MMRP sites previously identified, but several operational ranges are present. The Army completed a historical records review for the operational ranges at Fort Gillem.

## FY07 IRP Progress

Fort Gillem completed the ECP Phase I and initiated ECP Phase II to determine if additional site investigation or site cleanup is required. The Army completed the CERFA report and initiated the update of the background study for metals and pesticides as requested by GA EPD. The background study will impact the RI/baseline risk assessment (BLRA) for the following sites: FTG 01, 02, 04, 05, 06, 07, 08, 09, 10, 13, and 14. The installation awarded a contract to achieve NFA for Buildings 606 and 610 leaking underground storage tanks (USTs) sites. A total of four aggressive fluid and vapor recovery events were conducted at the Building 610 leaking UST site.

The focused FS at FTG 4 and FTG 13 were delayed due to contractual issues.

The installation solicited public interest in establishing a Restoration Advisory Board (RAB) and the Army concluded that there is no community interest in convening a RAB at this time.

## FY07 MMRP Progress

Fort Gillem has scheduled sampling of the former Trap Skeet Range during the ECP Phase II site investigation.

## Plan of Action

Plan of action items for Fort Gillem are grouped below according to program category.

### IRP

- Complete the background study for metals and pesticides in FY08.
- Initiate the closure of Building 606 and 610 leaking UST sites in FY08.
- Update the RI/BLRA for FTGs 01, 02, 03, 04, 05, 06, 07/10, 08, 09, 13, and 14 based on the results of the background study and submit the reports to GA EPD in FY08.
- Submit a technical memorandum to GA EPD recommending the Army's strategy to close down FTG 11 (Ordnance Disposal Site) in FY08.
- Achieve remedy in place in FY09.

### MMRP

There are no MMRP actions scheduled for FY08 or FY09.

<b>FFID:</b>	WA02140250600	<b>Contaminants:</b>	PAHs, VOCs, solvents, battery electrolytes, PCBs, heavy metals, oils and fuels, coal liquefaction wastes
<b>Size:</b>	86,176 acres	<b>Media Affected:</b>	Groundwater, Surface Water, Soil
<b>Mission:</b>	Serve as host to I Corps Headquarters; plan and execute Pacific, NATO, or other contingency missions; provide troop training, airfield, medical center, and logistics	<b>Funding to Date:</b>	\$ 80.3 million
<b>HRS Score:</b>	42.78 (Landfill No. 5), placed on NPL in July 1987, delisted from NPL in May 1995; 35.48 (Logistics Center), placed on NPL in November 1989	<b>Est. CTC (Comp Year):</b>	\$ 55.0 million (FY 2041)
<b>IAG Status:</b>	IAG signed in January 1990	<b>IRP Sites (Final RIP/RC):</b>	51 (FY2011)
		<b>MMRP Sites (Final RIP/RC):</b>	15 (FY2017)
		<b>Five-Year Review Status:</b>	Completed



Fort Lewis, Washington

**Progress To Date**

Fort Lewis is located approximately 15 miles south of Tacoma, Washington. Its mission includes planning and executing Pacific, NATO, and other contingency missions; providing troop training; operating an airfield and medical center; and providing logistical support. EPA placed two Fort Lewis sites on the NPL after investigations revealed soil and groundwater contamination; Landfill (LF) 5 in July 1987, and the Logistics Center in November 1989. EPA removed LF 5 from the NPL in May 1995. The Army and EPA signed an interagency agreement (IAG) in January 1990. In 2005, the BRAC Commission recommended Fort Lewis for realignment. Additional sites identified at Fort Lewis include landfills, former ranges, and spill sites. Primary contaminants include organic solvents, heavy metals, and fuels. The Army has completed three 5-year reviews: one for the Logistics Center in FY97; one for the Logistics Center, LFs 2 and 4, and the Illicit Polychlorinated Biphenyl (PCB) Dump Site in FY02; and one for the Logistics Center and seven other IAG sites in FY07. Fort Lewis has developed a community relations program; there has been no public interest in developing a Restoration Advisory Board (RAB).

The Army and EPA have signed three Records of Decision to date. In FY03, the Army completed an inventory of all Military Munitions Response Program (MMRP) sites. The cleanup progress at Fort Lewis for FY03 through FY06 is detailed below.

In FY03, the installation continued to operate two pump-and-treat systems for the trichloroethylene (TCE) plume. Construction of infrastructure for remediating LF 2 vadose zone and unconfined aquifer TCE dense non-aqueous phase liquid began. The Army completed bioremediation feasibility studies (FSs) for TCE and began further studies to support a monitored natural attenuation decision. The installation continued work on the lower aquifer study. The Army initiated the closed, transferred, and transferring (CTT) range and site inventory for Fort Lewis and Vancouver Barracks under the MMRP. The installation hosted quarterly work group meetings with scientists and regulators to assist the remediation of the Logistics Center. It also held an open house, distributed a newsletter about the status of site remediation activities, and solicited RAB interest.

In FY04, the installation continued operations and maintenance (O&M) remedies. The installation completed the delineation of TCE plume in Logistics Center Sea Level Aquifer (lower aquifer) and the associated study. The installation completed the field sampling portions of a vapor intrusion study for the Madigan Housing Area. The installation completed interim remedial actions (IRAs) for the Former Miller Hill Ranges. The installation submitted draft decision documents (DDs) with proposed final remedies for three Installation Restoration Program (IRP) sites. The Army completed the confirmatory sediment investigation at Park Marsh LF. The installation completed in situ thermal treatment of Area 1 to reduce life-cycle pump-and-treat costs, and continued research involving enhanced mass transfer and assessment of flux. The Army completed the Phase III CTT inventory. The installation completed an IRA for the Former Skeet Range.

In FY05, the installation continued O&M of remedies at the Logistics Center (two groundwater pump-and-treatment systems) and the Illicit PCB Dump Site (cap and fence). Long-term management remedies at the Logistics Center and LFs 1 and 4 continued. The installation completed in-situ thermal treatment at the second of three Logistics Center source areas. The installation began significant modification of one Logistics Center pump-and-treat system by installing eight new extraction wells. Additionally, the installation closed the potential vapor intrusion pathway for the Logistics Center. A completed Sea Level Aquifer focused FS was expanded into a full FS. Additional monitoring wells were installed and sampled to further delineate the TCE plume in the Sea Level Aquifer. The installation submitted draft DDs with proposed final remedies for four IRP sites, including a no further action remedy (NFA) for the Park Marsh LF site. The installation conducted site sampling at one of the two remaining sites without a selected or proposed remedy (LF 6). The installation completed IRAs at the former Evergreen Infiltration Range (soil removal) and former Skeet Range (perimeter fence). The Army initiated an site inspection (SI) for seven MMRP sites. The installation continued the community relations program. Fort Lewis received the DoD Secretary of Defense Environmental Award for Restoration.

In FY06, the installation continued O&M of remedies at the Logistics Center, Illicit PCB Dump Site, and LFs 1 and 4. The installation initiated in-situ thermal treatment at the last of three

Logistics Center source areas and completed modification of one Logistics Center pump-and-treat system. Fort Lewis also completed the Logistics Center Sea Level Aquifer FS and prepared a draft DD. The Army selected final remedies in final DDs for five non-NPL sites. For LF 6, one of the remaining non-NPL sites, Fort Lewis proposed a NFA remedy. Fort Lewis completed an SI work plan for all MMRP sites.

**FY07 IRP Progress**

Fort Lewis completed in-situ thermal treatment at the final Logistics Center source area. The installation completed the Logistics Center Sea Level Aquifer remedy selection and began remedy installation. Fort Lewis began the SI for the last remaining non-NPL IAG site. The installation completed the draft Fort Lewis Agreed Order remedial investigation (RI) report. Additionally, the installation also continued O&M of remedies at the Logistics Center, Illicit PCB Dump Site, and LFs 1 and 4. Fort Lewis obtained EPA concurrence that NFA is necessary for vapor intrusion pathway at Madigan Housing. The installation completed a 5-year review and the Land Use Control (LUC) Plan for Logistics Center and seven other IAG sites. The cost of completing environmental restoration has changed significantly due to technical issues.

**FY07 MMRP Progress**

The installation completed field sampling and an SI.

**Plan of Action**

Plan of action items for Fort Lewis are grouped below according to program category.

**IRP**

- Complete final Fort Lewis Agreed Order RI report in FY08.
- Continue O&M of remedies at Logistics Center, Illicit PCB Dump Site, LFs 1 and 4, and four other IAG sites with LUC remedies in FY08-FY09.

**MMRP**

- Conduct soil removal at former Skeet Range in FY09.

<b>FFID:</b>	AL421372056200	<b>Funding to Date:</b>	\$ 219.6 million
<b>Size:</b>	41,191 acres	<b>Est. CTC (Comp Year):</b>	\$ 200.2 million (FY 2028)
<b>Mission:</b>	Served as host to the U.S. Army Chemical School, the U.S. Army Military Police School, and the DoD Polygraph Institute	<b>IRP Sites (Final RIP/RC):</b>	128 (FY2017)
<b>HRS Score:</b>	N/A	<b>MMRP Sites (Final RIP/RC):</b>	7 (FY2028)
<b>IAG Status:</b>	None	<b>Five-Year Review Status:</b>	Planned
<b>Contaminants:</b>	VOCs, SVOCs, pesticides, explosives, metals, UXO, radioactive sources, non-stockpile chemical warfare materiel		
<b>Media Affected:</b>	Groundwater and Soil		



Anniston, Alabama

## Progress To Date

In July 1995, the BRAC Commission recommended closing most Fort McClellan facilities. The Army retained the minimum essential land and facilities for a Reserve component enclave and essential facilities for auxiliary support of the chemical demilitarization operation at Anniston Army Depot. Studies since FY90 have identified the following site types at Fort McClellan: maintenance facility areas; training and range areas; underground storage tanks; landfills; incinerators; storage handling areas for toxic and hazardous materials; and chemical agent and radioactive substance training, storage, and disposal areas. The main contaminants of concern are chlorinated volatile organic compounds (VOCs) in groundwater and lead in soils. In FY95, EPA concluded that environmental conditions at Fort McClellan did not warrant its placement on the NPL. During FY95, the Army established information repositories at three locations, and the community formed a local redevelopment authority (LRA). In FY96, the installation formed a BRAC cleanup team (BCT) and a Restoration Advisory Board (RAB). The installation completed its environmental baseline survey and BRAC cleanup plan version I in FY98. The Army provided technical assistance for public participation (TAPP) contracts for the RAB in FY02, FY03, FY04, and FY05.

The Army has identified Installation Restoration Program (IRP) sites at the installation and transferred 18,129 acres. The Army has completed 95 decision documents (DDs), 6 action memoranda, and a Record of Decision. In FY03, the Army completed an inventory of all Military Munitions Response Program (MMRP) sites. The cleanup progress at Fort McClellan for FY03 through FY06 is detailed below.

In FY03, the BCT reviewed three findings of suitability to transfer (FOSTs), an environmental condition of property report, and a finding of suitability for early transfer. The LRA assumed responsibility for characterization/remediation for a portion of the early transfer parcels as specified in the Environmental Services Cooperative Agreement (ESCA) between the Army and the LRA. The installation completed the engineering evaluation/cost analysis (EE/CA) for 11 fill areas, decommissioning activities at Rideout Field burial mound, and fieldwork for site inspections at the historical ranges. The Army completed the closed, transferred, and transferring ranges and sites inventory report that identified MMRP sites. Under the

MMRP, the installation completed the Alpha Area EE/CA and the M1 01 Parcel final removal report, and continued EE/CAs for the Bravo and Charlie Areas. The RAB received another TAPP contract for technical evaluation and training.

In FY04, the installation completed Chemical Warfare Materiel 3X scrap removal field activities at Training Areas T 38 and T 24 A and a FOST for Highway 21. The BCT reviewed a FOST and the Army transferred 158 acres to the Alabama Department of Transportation. Under the MMRP, the installation completed the Eastern Bypass final removal report for 282 acres of land. Additionally, the Army completed fieldwork activities for an interim removal action on 60 acres of the "Y" Area Junction of the Eastern Bypass in the Bravo Area. The installation also completed fieldwork activities for a time-critical removal action on two acres at the dog kennels in the Bravo Area. The Army completed fieldwork activities for additional interim remedial actions, including a clearance to depth on 19 acres at 3 water tank sites in the Bravo Area and a clearance to depth on roads, firebreaks, and high-use areas in the Mountain Longleaf Pine National Wildlife Refuge. The Army extended the TAPP contract for the RAB.

In FY05, the Army transferred five acres and completed a modification to the ESCA to comply with a new 2-year funding restriction. The Army also completed negotiations for a second modification to the ESCA technical specification and requirements statement to include additional early transfer parcels and Army continuing responsibility sites. The Army completed a removal action for lead contaminated soils in a portion of the Iron Mountain Road Ranges that extended into the Eastern Bypass. No Further Action DDs were completed for several small arms firing ranges. The installation completed a clearance to depth within the construction debris area of the Eastern Bypass. The Army extended the TAPP contract for the RAB. The BCT held facilitated meetings.

In FY06, the installation completed X-ray fluorescence surveys at the Snap Lane and Bains Gap Road Tank Sites, and erosion control measures at Iron Mountain Road Ranges. The BCT completed the Problem Formulation and Study Design for Baby Bains Gap Road Ranges. Within the MMRP, Fort McClellan completed a clearance to depth on 19 acres located in the Charlie Area and signed Statements of Clearance for the

Eastern Bypass, the Water Tank Sites, and the Bains Gap Road.

## FY07 IRP Progress

The Army signed an ESCA inclusive of all early transfer parcels covered in the 2003 ESCA and subsequent modifications, and the remaining early transfer parcels that were not previously included in an ESCA. The installation completed fieldwork for the Baby Bains Gap Road Ranges baseline ecological risk assessment, and collected groundwater samples at Training Area T 24A. The cost of completing environmental restoration has changed significantly due to changes in estimating criteria.

The Army Training Area T-24A Problem Formulation and Study Design was delayed due to regulatory issues. The 5-year review for the General Services Administration (GSA) Warehouse Area was rescheduled to correspond with the DD.

The BCT held facilitated meetings.

## FY07 MMRP Progress

The installation conducted a recurring review of nine munitions and explosive areas of concern. Fort McClellan finalized the removal report and signed the statement of clearance for the Eastern Bypass Y Area Junction.

## Plan of Action

Plan of action items for Fort McClellan are grouped below according to program category.

### IRP

- Complete the Problem Formulation and Study Design for Training Area T 24A in FY08.
- Conduct a 5-year review for the GSA Warehouse Area in FY08.

### MMRP

- Complete the EE/CA for the Eastern Bypass Iron Mountain Road Addition in FY09.
- Complete the EE/CA for Charlie Area in FY09.

<b>FFID:</b>	GA421402056500	<b>Funding to Date:</b>	\$ 8.2 million
<b>Size:</b>	487 acres	<b>Est. CTC (Comp Year):</b>	\$ 0.2 million (FY 2009)
<b>Mission:</b>	Served as host to the U.S. Army Forces Command Headquarters, the U.S. Army Reserve Command, and the Headquarters of the Third U.S. Army.	<b>IRP Sites (Final RIP/RC):</b>	11 (FY1999)
<b>HRS Score:</b>	N/A	<b>MMRP Sites (Final RIP/RC):</b>	3 (FY2008)
<b>IAG Status:</b>	None	<b>Five-Year Review Status:</b>	A 5-year review is not required for this installation.
<b>Contaminants:</b>	POLs, metals, solvents		
<b>Media Affected:</b>	Groundwater and Soil		



Atlanta, Georgia

## Progress To Date

In 2005, the BRAC Commission recommended Fort McPherson for closure. Fort McPherson is located on approximately 487 acres of land within the city limits of Atlanta. The Installation is bounded by residential areas to the north (Oakland City), east (Lakewood), and west, with mixed residential and industrial areas located immediately south of the Installation. Fort McPherson houses the U.S. Army Forces Command Headquarters, the U.S. Army Reserve Command, and the headquarters of the Third U.S. Army. Sites include a contaminated fill area, a surface disposal area, four oil water separators, former small arms ranges, an active small arms range, an aboveground storage tank, and four underground storage tanks (USTs). Early activities include a preliminary assessment for all sites at Fort McPherson, a UST removal at Fort McPherson Site 10 (FTMP 10), an interim removal action to remove a UST and surrounding soil from FTMP 02 and Building 41 SJA Office. In FY99, the installation installed a passive fuel recovery system at FTMPs 09 and 10. Other actions included site inspections (SIs), a soil vapor extraction pilot test, a Phase I and II remedial investigation, and a corrective action plan (CAP). In FY07, Fort McPherson established a Restoration Advisory Board (RAB).

The Army completed an inventory of all Military Munitions Response Program (MMRP) sites in FY06. The cleanup progress at Fort McPherson for FY03 through FY06 is detailed below.

In FY03, FY04, and FY05, the installation continued the free product recovery and monitoring at Buildings 105 and 143.

In FY06, the Army initiated environmental condition of property (ECP) and CERFA report preparation in response to the BRAC 2005 recommendations for closure of the installation. Fort McPherson continued the free-product recovery and monitoring at Buildings 105 and 143, and installed one additional well. Fort McPherson also completed a historical records review to evaluate the operations at all former ranges.

## FY07 IRP Progress

Fort McPherson conducted two Aggressive Fluid and Vapor Recovery events at Buildings 105 (FTMP 10) and 143 (FTMP 09) leaking UST sites to capture as much free product and vapor as possible. A CAP Part B was requested by Georgia Environmental Protection Division for Buildings 105 and 143. The installation completed the ECP Phase I and initiated a follow-on site investigation. The CERFA report was completed. The cost of completing environmental restoration has changed significantly due to technical issues.

A RAB was established and held their first meeting.

## FY07 MMRP Progress

The installation initiated visual SIs of the Atlanta National Guard Target Range, Skeet Range, Atlanta National Guard Rifle Range, Pistol Range, and 300 Yard Target Range.

## Plan of Action

Plan of action items for Fort McPherson are grouped below according to program category.

### IRP

- Conduct sampling at potential IRP sites identified during the Phase I ECP in FY08.
- Complete a CAP Part B for Buildings 105 and 143 in FY08.

### MMRP

- Conduct sampling at all former small arms ranges in FY08.
- Complete SIs in FY08.

<b>FFID:</b>	NJ221382059700	<b>Funding to Date:</b>	\$ 26.6 million
<b>Size:</b>	1,338 acres	<b>Est. CTC (Comp Year):</b>	\$ 3.0 million (FY 2017)
<b>Mission:</b>	Conducted research and development of C4ISR systems	<b>IRP Sites (Final RIP/RC):</b>	55 (FY2009)
<b>HRS Score:</b>	N/A	<b>MMRP Sites (Final RIP/RC):</b>	1 (FY2017)
<b>IAG Status:</b>	FFA signed in July 1990	<b>Five-Year Review Status:</b>	Underway
<b>Contaminants:</b>	Petroleum hydrocarbons, VOCs, SVOCs, PCBs, heavy metals, radionuclides		
<b>Media Affected:</b>	Groundwater and Soil		



Monmouth County, New Jersey

## Progress To Date

In 1993, the BRAC Commission recommended realignment of Fort Monmouth. This realignment resulted in the closure of the Evans Area; transfer of part of the Charles Wood Area to the Navy; and relocation of personnel from the leased space, Evans Area, and Vint Hill Farms Station to the main post and Charles Wood Area. To speed transfer, the Army divided the Fort Monmouth BRAC property into eight parcels: the Charles Wood Housing Area and seven parcels in the Evans Area. The Army and EPA signed a federal facility agreement (FFA) covering Evans Area in July 1990. In FY94, an enhanced preliminary assessment of the BRAC parcels identified 32 sites in the Evans Area and 8 sites in the Olmstead Housing Area. In 2005, the BRAC Commission recommended closure of the Fort Monmouth Main Post and Charles Wood Area. Prominent sites are landfills, underground storage tanks, hazardous waste storage areas, polychlorinated biphenyl (PCB) spill areas, asbestos areas, and radiological storage and spill areas. Contaminants in groundwater and soil include chlorinated solvents, volatile organic compounds (VOCs), and heavy metals. In FY94, the Evans Area formed a BRAC cleanup team and completed Version 1 of the BRAC cleanup plan. In FY96, the Evans Area formed a Restoration Advisory Board (RAB). The Evans Area initiated a 5-year review in FY06.

Installation Restoration Program (IRP) sites have been identified at Fort Monmouth. Of all IRP sites, 37 sites have achieved response complete. The Army initiated additional remedial investigations for 28 sites, remedial designs for 8 sites, corrective actions at 4 sites, RAs at 13 sites, and monitored natural attenuation at 11 sites. In FY02, the Army completed an inventory of all Military Munitions Response Program (MMRP) sites. The cleanup progress in the Evans Area for FY03 through FY06 is detailed below.

In FY03, the Army transferred the Evans Area Parcels D' and F by deed. The installation completed PCB soil remediation in Parcels A and D.

In FY04, the Army completed deed transfer actions for Evans Area Parcels A (including the pumphouse area), A', and B (partial). The tenant completed Evans Parcel G remedial actions (RAs), while the installation initiated the FOST. The Army obtained regulatory approval for the remediation work

plan for all chemical storage shed discharge areas. The installation has completed all PCB remediation and restoration actions within Parcel C and adjacent residential properties.

In FY05, Fort Monmouth Evans Area assessed and delineated wetlands within Evans Parcel B and completed deed transfer actions. The Army completed a FOST for Evans Parcel G. The Army also completed a FOST amendment for Evans Parcel E that included a lead-based paint provision and completed deed transfer. The Army entered into a memorandum of agreement, agreeing to abate asbestos-containing materials and perform interior demolition activities within historic buildings in Evans Parcel C.

In FY06, Fort Monmouth completed the environmental condition of property (ECP) report and submitted it for regulatory review. Fort Monmouth completed the historical records review and identified a small arms range. Fort Monmouth Evans Area completed the fieldwork portion for site FTMM-67.

## FY07 IRP Progress

Fort Monmouth completed the historical site assessment for radiological commodities and use. Fort Monmouth completed and submitted the CERFA report for the Main Post and Charles Wood Areas. In addition, the Army completed the FOST for Parcels C and D at Evans Area. The installation submitted the draft RA Report for the Hazardous Materials Storage Sheds (except for the PCB remediation at Building 9053) to the regulators for review and comment. The cost of completing environmental restoration has changed significantly due to technical issues and changes in estimating criteria.

The Phase I of the ECP report has been completed; however, Phase II was delayed due to contractual issues. The EBS was also delayed due to contractual issues. The following actions were incorrectly reported in last year's IRP plan of action section of the narrative: the installation initiated additional remedial investigations at 28 sites, remedial designs at eight sites, corrective actions at four sites, RAs at 13 sites, and monitored natural attenuation at 11 sites. These actions have already been completed at Fort Monmouth during investigation/remediation of the facility.

A RAB for BRAC 2005 Main Post and Charles Wood Area was formed.

## FY07 MMRP Progress

Fort Monmouth initiated site investigation field work at Site FTMM 001 R 01.

## Plan of Action

Plan of action items for Fort Monmouth are grouped below according to program category.

### IRP

- Complete PCB remediation at Evans Area Building 9053 in FY08.
- Complete delineation and baseline ecological evaluation at Evans Area Marconi Buildings (9004) in FY08.
- Continue injections of oxygen release compounds at Site FTMM 61 and maintain the product recovery system at FTMM 66 in FY08.
- Complete the BRAC 2005 Site Investigation Report in FY08.
- Finalize Evans Area EBS and FOST for Parcels C and D and transfer property in FY08.
- Finalize RA report for the Evans Area Hazardous Materials Storage Sheds (except PCB remediation at Building 9053) in FY08.

### MMRP

There are no MMRP actions scheduled for FY08 or FY09.

<b>FFID:</b>	VA321372060300	<b>Funding to Date:</b>	\$ 2.0 million
<b>Size:</b>	570 acres	<b>Est. CTC (Comp Year):</b>	\$ 60.8 million (FY 2017)
<b>Mission:</b>	Provided quality base operations for five major commands/regional HQs and several national defense agencies	<b>IRP Sites (Final RIP/RC):</b>	4 (FY1995)
<b>HRS Score:</b>	N/A	<b>MMRP Sites (Final RIP/RC):</b>	15 (FY2017)
<b>IAG Status:</b>	None	<b>Five-Year Review Status:</b>	A 5-year review is not required for this installation.
<b>Contaminants:</b>	Metals and MEC		
<b>Media Affected:</b>	Sediment and Soil		



Hampton, Virginia

## Progress To Date

In 2005, the BRAC Commission recommended closure of Fort Monroe, which is located in southeast Virginia in the City of Hampton. Fort Monroe, most of which was designated a National Historic Landmark in 1960, provides quality base operations support for National Defense Agencies while preparing the Fort Monroe community for the future. Environmental remediation activities at Fort Monroe have been undertaken at several sites, primarily in the form of soil or liquid hydrocarbons removal from leaking underground storage tanks. In FY06, the Army designated a Base Transition Coordinator, an interim BRAC Environmental Coordinator and established a Restoration Advisory Board (RAB). In FY07, the Governor of Virginia established the Fort Monroe Federal Area Development Authority (FMFADA).

Approximately 288 acres of Fort Monroe property is under a reversionary clause to the Commonwealth of Virginia, with 77 additional acres of accreted land that is not yet under a deed and ownership is undetermined. Four Installation Restoration Program (IRP) sites at Fort Monroe have achieved response complete: Sites 1 and 2 (two former landfills), Site 3 (a classified document incinerator), and Site 4, (installationwide unexploded ordnance). In FY07, the Army completed an inventory of all Military Munitions Response Program (MMRP) sites. The cleanup progress at Fort Monroe for FY04 through FY06 is detailed below.

In FY04, the Army completed a Range Inventory. The inventory identified thirteen sites as eligible for the MMRP. This inventory served as the preliminary assessment under CERCLA.

In FY06, the installation initiated both an environmental condition of property (ECP) and a CERFA report. Fort Monroe also initiated a site inspection (SI) under MMRP, to include a historical records review (HRR). The Army redefined the sites identified in the Range Inventory and evaluated additional sites. Several sites identified during the HRR were recommended for further investigation.

## FY07 IRP Progress

Fort Monroe completed the ECP and submitted the CERFA report to the Virginia Department of Environmental Quality (VDEQ) for regulatory comment. The installation, VDEQ, and the FMFADA developed a Field Sampling Plan (FSP) to gather additional data to determine if new sites requiring cleanup exist; historical photographic analysis was also initiated. The cost of completing environmental restoration has changed significantly due to technical issues.

The RAB received training on the CERCLA cleanup process. RAB members were provided a tour of the sites included in the FSP.

## FY07 MMRP Progress

Fort Monroe and VDEQ held meetings to develop a conceptual site model to address Munitions and Explosives of Concern (MEC) and to prepare an installationwide remedial investigation (RI) work plan; however, technical issues delayed completion.

The RAB was provided training to the types of weapon systems previously used on Fort Monroe and the MEC found to date.

## Plan of Action

Plan of action items for Fort Monroe are grouped below according to program category.

### IRP

- Complete the SI report for sites requiring further investigation in FY08.
- Prepare a letter for VDEQ concurrence on no further action sites in FY08.
- Complete the historical photographic analysis in FY08.

### MMRP

- Complete the RI work plan for closed ranges and initiate fieldwork in FY08.

<b>FFID:</b>	CA921372067600	<b>Media Affected:</b>	Groundwater and Soil
<b>Size:</b>	27,827 acres	<b>Funding to Date:</b>	\$ 384.6 million
<b>Mission:</b>	Served as host to 7th Infantry Division (Light); supports the Defense Language Institute Foreign Language Center, currently at the Presidio of Monterey, California	<b>Est. CTC (Comp Year):</b>	\$ 299.9 million (FY 2022)
<b>HRS Score:</b>	42.24; placed on NPL in February 1990	<b>IRP Sites (Final RIP/RC):</b>	46 (FY2012)
<b>IAG Status:</b>	FFA signed in July 1990	<b>MMRP Sites (Final RIP/RC):</b>	22 (FY2017)
<b>Contaminants:</b>	VOCs, petroleum hydrocarbons, heavy metals, pesticides, SVOCs, explosives, propellants	<b>Five-Year Review Status:</b>	Completed



Marina, California

**Progress To Date**

From 1917 to 1994, Fort Ord served primarily as a training and staging installation for infantry units. In FY87, a hydrogeological investigation identified the Fort Ord sanitary landfills as potential sources of contamination. EPA placed the installation on the NPL in 1990. The Army and EPA signed a federal facility agreement in 1990. Identified sites include landfills, underground storage tanks, motor pools, family housing areas, a fire training area, an 8,000-acre impact area, and an ordnance and explosives disposal area. The installation discovered that petroleum hydrocarbons and volatile organic compounds (VOCs) were migrating into groundwater. In 1991, the BRAC Commission recommended closing Fort Ord and moving the 7th Infantry Division (Light) to Fort Lewis, Washington. The Army closed Fort Ord in September 1994. In FY94, the installation converted its technical review committee (TRC) to a Restoration Advisory Board (RAB) and formed a BRAC cleanup team. Since 1997 school safety briefings have been presented as part of the Military Munitions Response Program (MMRP) site security program. In FY99, the installation reestablished the TRC and dissolved the RAB. The installation completed 5-year reviews in FY01 and FY07 for OU 1. A comprehensive 5-year review for all sites was completed in FY07.

The Army has identified Installation Restoration Program (IRP) sites at Fort Ord. The Army has completed an inventory of all MMRP sites. The Army has transferred over 12,768 acres and completed 8 Records of Decision (RODs) to date. The cleanup progress at Fort Ord for FY03 through FY06 is detailed below.

In FY03, the installation completed a lead-contaminated soil consolidation and closed Operable Unit (OU) 2. The installation designated carbon tetrachloride plume (CTP) as OU CTP, and initiated a remedial investigation/feasibility study (RI/FS). The installation completed all RCRA clean closure actions for Building T 111. The installation continued operating three groundwater pump-and-treat plants. The Track 0 finding of suitability to transfer (FOST) and Del Rey Oaks finding of suitability for early transfer (FOSET) property transfers were initiated. The Army transferred 10 parcels totaling 484 acres. The installation initiated MMRP cleanup actions at the Seaside Parcel area and Monterey County Parcel and completed the removal at the Del Rey Oaks parcel. Long-term management

actions included munitions and explosives of concern (MEC) school safety presentations, clearance of fuels breaks in the impact area, site security patrols, and MEC awareness classes for construction workers. The installation completed the closed, transferred, and transferring ranges inventory report and organized 24 MMRP sites and some adjacent areas into range complexes covering 19,977 acres.

In FY04, the installation completed the Track 1 proposed plan (PP) and public comment period. The Army completed the non-munitions response (MR) related RCRA closure actions for open burn/open detonation (OB/OD) area 36A and the Track 0 FOST. The Army signed the Del Rey Oaks FOSET. The installation completed the PP and public comment period related to the ecological risk issues at Site 3. The Army transferred 1,227 acres. The Army completed a 500-acre vegetation removal and surface removal at MMRP sites Ranges 43 through 48, followed by remedial actions (RAs). The installation completed surface removal work at the 1,000-acre Watkins Gate area. The Army completed a 700-acre surface removal in the eucalyptus wildfire area.

In FY05, the installation completed a groundwater treatment systems optimization strategy and began implementation at OU 2 and Site 2/12. The Army completed FOSTs for Track 0 plug-in properties. Additionally, the Army completed a ROD for Track 1 and completed FOSTs for related property transfers. The installation completed an RI/FS for the carbon tetrachloride site. The installation completed RAs to depth at Ranges 43 through 48. The installation began planning the prescribed burn project for MR Site 16. In addition, the installation began an RI/FS for the Track 2 Parker Flats site and continued developing an RI/FS for Track 3 sites.

In FY06, the installation installed an air stripper at Site 2/12 groundwater treatment system. The Army also installed a landfill gas extraction and treatment system at OU 2 and a groundwater pilot study treatment system at OU 1. In addition, the Army completed a PP for a groundwater carbon tetrachloride site. Fort Ord continued development of an RI/FS for Track 3 sites and continued a site safety program for military munitions. The Army transferred Del Rey Oaks parcel and completed an RI/FS for Track 2 Parker Flats site.

**FY07 IRP Progress**

Fort Ord closed Range 36A (RCRA permitted OB/OD treatment facility) and no further action is required at this site. The installation issued the draft ROD and installed a pilot treatment system for the OU CTP. The Army expanded the treatment system and completed a 5-year review for OU 1. In addition, the installation continued investigations for Site 39 and optimization activities for OU 2. The cost of completing environmental restoration has changed significantly due to technical and regulatory issues and changes in estimating criteria.

**FY07 MMRP Progress**

Fort Ord completed PPs, public comment periods, and issued draft RODs for Del Rey Oaks (Track 2) and Parker Flats (Track 2) areas and issued the PP, completed public comment periods, and issued the draft ROD for Impact Area (Track 3). In addition, the installation conducted a prescribed burn and completed removal to depth for MR Site 16.

**Plan of Action**

Plan of action items for Fort Ord are grouped below according to program category.

**IRP**

- Complete Site 39 ROD amendment and excavate contaminated soils in FY08.
- Construct groundwater treatment unit for OU 1 offsite plume in FY08.
- Sign ROD and initiate groundwater remedy at OU CTP in FY08.
- Continue actions to optimize OU 2 groundwater treatment unit in FY08.

**MMRP**

- Sign three RODs, prepare work plans and FFA schedules, and initiate remedy in FY08.
- Complete prescribed burn and MR clearance activities for Impact Area Units 1-3 in FY08.
- Transfer environmental services cooperative agreement (ESCA) properties and initiate ESCA MMRP sites clearance activities in FY08.

<b>FFID:</b>	AK021452215700	<b>Funding to Date:</b>	\$ 89.0 million
<b>Size:</b>	64,470 acres	<b>Est. CTC (Comp Year):</b>	\$ 295.8 million (FY 2037)
<b>Mission:</b>	Support and sustain forces assigned to U.S. Army Alaska	<b>IRP Sites (Final RIP/RC):</b>	81 (FY2010)
<b>HRS Score:</b>	50.00; placed on NPL in May 1994	<b>MMRP Sites (Final RIP/RC):</b>	15 (FY2017)
<b>IAG Status:</b>	FFA signed in December 1994	<b>Five-Year Review Status:</b>	Completed and planned
<b>Contaminants:</b>	White phosphorus, PCBs, heavy metals, POLs, solvents, pesticides, VOCs, dioxins, SVOCs		
<b>Media Affected:</b>	Groundwater, Surface Water, Sediment, Soil		



Anchorage, Alaska

## Progress To Date

Since World War II, Fort Richardson has supported combat unit training and operations. These activities contaminated soil, surface water, sediment, and groundwater with petroleum/oil/lubricants (POLs), solvents, and polychlorinated biphenyls (PCBs). Parts of a 2,500-acre wetland (Eagle River Flats) that serve as an active ordnance impact area were contaminated with white phosphorus. EPA placed Fort Richardson on the NPL in 1994. The Army and EPA signed a federal facility agreement (FFA) in December 1994. In 2005, the BRAC Commission recommended Fort Richardson for realignment. Removal actions addressed PCB-contaminated soil, underground storage tank sites, two drum burial sites, and soil contaminated with volatile organic compounds (VOCs), POLs, and chemical agents. In FY98, the installation formed a Restoration Advisory Board (RAB). The Army completed an initial 5-year review in FY03.

Preliminary assessments and site inspections (SIs) ending in FY93 identified 38 potential contaminated sites. Five Records of Decision (RODs) have been signed to date. In FY02, the installation completed an inventory of all Military Munitions Response Program (MMRP) sites. The cleanup progress at Fort Richardson for FY03 through FY06 is detailed below.

In FY03, the installation completed the initial 5-year review. The Army completed the geologic and groundwater model for Operable Unit (OU) B. The installation is using the model to develop a long-term management (LTM) plan and exit strategy. The installation completed and signed the interim remedial action (RA) reports for OUs B and C, finalizing the construction complete process for both sites. The Army completed the final year of active RA at OU C and began hot spot treatment and LTM. The Army identified 12 MMRP sites and incorporated them into the environmental sites database. The RAB met four times and participated in a tour of the Rapid Response System that was deployed to Fort Richardson. The installation continued to partner with EPA and the Alaska Department of Environmental Conservation. The Army conducted four agency meetings to discuss all regulated sites.

In FY04, the Army completed the remedial investigation (RI)/feasibility study and proposed plan for OU E. After meeting the short-term RA objectives, the Army developed a long-term

mortality monitoring strategy for OU C and initiated LTM. The installation updated the groundwater model for OU B by incorporating additional data. The RAB met four times and completed a tour of the OU C site. The RAB voted to reduce the number of meetings in FY05.

In FY05, the Army completed the ROD for OU E, which included natural attenuation with institutional controls for groundwater that has potential for use as a drinking water source. The installation treated two hot spot areas of white phosphorous contamination and developed a LTM plan at OU C. In addition, the Army performed a treatability study (TS) to treat contaminated soil that was recently discovered at OU B. The Army completed a comprehensive groundwater evaluation. The RAB held two meetings and one site visit.

In FY06, Fort Richardson achieved construction complete for all OUs. The Army completed the interim RA plan and implemented the LTM strategy at OU E. The installation continued groundwater monitoring and modeling to support the optimization of the selected remedy at OU B. The Army continued hot spot treatments to meet LTM objectives at OU C. The Installation, EPA and the State signed a decision document (DD) indicating that approximately 60 percent of the Eagle River training area is available for year-round availability for training. The RAB met in an effort to solicit additional community interest.

## FY07 IRP Progress

Fort Richardson evaluated and optimized the LTM program for all active Installation Restoration Program (IRP) sites. The installation completed installationwide LTM. Fort Richardson installed two sets of wells (deep/shallow) at OU B to determine whether rebounding solvent contamination is migrating off site. Both long- and short-term remedial goals were achieved at OU C. The installation completed a TS at OU C. The Army completed groundwater monitoring at OU E. In addition, the interim RA report and final LTM plan were approved. Quarterly FFA meetings were held with EPA and the State. The cost of completing environmental restoration has changed significantly due to technical issues.

The RI for Nike Site Summit was postponed due to contractual issues.

The RAB met twice, and quarterly newsletters were sent to all RAB members.

## FY07 MMRP Progress

The installation completed SIs.

## Plan of Action

Plan of action items for Fort Richardson are grouped below according to program category.

### IRP

- Complete 5-year review in FY08.
- Update installationwide land use control policy and geographic information system database in FY08.
- Evaluate TS at OU C in FY08.
- Develop revised LTM plan for OU C to monitor bird mortality, white phosphorus monitoring, and bird migrations in FY08.
- Begin RI at Nike Site Summit in FY08.

### MMRP

- Evaluate SI reports in FY08.

<b>FFID:</b>	KS721402075600	<b>Funding to Date:</b>	\$ 69.4 million
<b>Size:</b>	100,656 acres	<b>Est. CTC (Comp Year):</b>	\$ 10.2 million (FY 2016)
<b>Mission:</b>	Provide training, readiness, and deployability for three component combat brigades, one combat aviation brigade, and one sustainment brigade; active and reserve component units	<b>IRP Sites (Final RIP/RC):</b>	72 (FY2012)
<b>HRS Score:</b>	33.8; placed on NPL in August 1990	<b>MMRP Sites (Final RIP/RC):</b>	4 (FY2016)
<b>IAG Status:</b>	IAG signed in June 1991	<b>Five-Year Review Status:</b>	Completed
<b>Contaminants:</b>	Pesticides, lead, VOCs, metals, solvents		
<b>Media Affected:</b>	Groundwater, Surface Water, Soil		



Junction City, Kansas

## Progress To Date

Fort Riley provides facilities for several active and reserve Army combat brigades. EPA placed Fort Riley on the NPL in 1990. The installation has five operable units (OUs): Southwest Funston Landfill (OU 1), Pesticide Storage Facility (OU 2), Dry Cleaning Facilities Area (OU 3), Former Fire Training Area-Marshall Army Airfield (OU 4), and 354 Area Solvent Detections (OU 5). Groundwater contamination from OU 4 no longer extends off-post. The Army completed one 5-year review for OUs 1 and 2 in FY02, and another for OUs 1 through 5 in FY07. The installation has a Restoration Advisory Board (RAB).

Environmental studies identified Installation Restoration Program (IRP) sites at Fort Riley. In FY05, the Army completed an inventory of all Military Munitions Response Program (MMRP) sites. To date, the installation completed four Records of Decision (RODs) for OUs 1, 2, 4, and 5. The cleanup progress at Fort Riley for FY03 through FY06 is detailed below.

In FY03, the installation submitted the feasibility study (FS) for OU 4 for regulatory review. The site inspections (SIs) for the petroleum, oil, and lubricant (POL) Tank Farm and abandoned gasoline line (AGL) continued. The Army initiated an inventory of closed, transferred, and transferring ranges and sites with unexploded ordnance, discarded military munitions, or munitions constituents.

In FY04, the installation completed the remedial investigation (RI) addendum and initiated the FS addendum for OU 3. The installation completed the proposed plan (PP) and initiated the ROD for OU 4. The installation completed the RI and initiated the FS for OU 5. The Army developed a technical memorandum for characterization of the open burning/open detonation (OB/OD) range. The installation completed Phase I of the SI for the POL Tank Farm and began monitoring to determine future actions. The Army conducted the initial MMRP site visit and a historical records review for the MMRP SI.

In FY05, Fort Riley completed the FS addendum for OU 3. The installation completed a ROD and initiated a remedial design/remedial action (RD/RA) plan for OU 4. Additionally, the installation completed an FS and a PP, and initiated a ROD for OU 5. The Army completed an engineering evaluation/cost analysis and the associated public comment period for the

AGL. The Army also completed a technical memorandum for the OB/OD area and installed a new monitoring well. The installation completed Phase II of the SI for POL Tank Farm and developed a plan to address multiple sites previously listed as response complete under an expanded SI. The installation generated the historical records review report and conducted SI sampling at the MMRP sites. The installation held a public comment period and public meeting for the OU 5 PP in conjunction with the July 2005 RAB meeting. The installation also developed a revised community involvement plan.

In FY06, Fort Riley completed the pilot study at OU 3. The installation completed the RD/RA plan and initiated monitored natural attenuation (MNA) remedy for OU 4. The Army completed the ROD for OU 5, in addition to sampling and analysis for an expanded SI. The installation also initiated an agreement similar to a performance based contract for long-term management for OUs 3, 4, and 5. For the MMRP, Fort Riley submitted the SI report.

## FY07 IRP Progress

Fort Riley completed a second 5-year review for OUs 1, 2, 4, and 5, and submitted the report for regulatory approval. The installation completed an RD/RA plan and initiated MNA remedy monitoring at OU 5. MNA remedy monitoring continued at OU 4. In addition, the installation completed removal action at AGL and began site monitoring. A PP was completed for OU 3; however, a revision of the FS addendum was determined to be unnecessary. The cost of completing environmental restoration has changed significantly due to technical issues.

The pilot study report for OU 3 was completed but the ROD was delayed due to regulatory issues.

## FY07 MMRP Progress

The installation initiated the RI/FS for the Sherman Heights Small Arms Range Impact Slope and Forsyth Landfill Area.

## Plan of Action

Plan of action items for Fort Riley are grouped below according to program category.

### IRP

- Conduct public comment for PP, complete ROD, and initiate RD/RA plan for OU 3 in FY08.
- Continue MNA monitoring for OUs 4 and 5 in FY08.
- Continue monitoring at AGL in FY08.

### MMRP

- Conduct RI/FS for Sherman Heights Small Arms Range Impact Slope and Forsyth Landfill Area 2 in FY08.

<b>FFID:</b>	MD321022075800	<b>Est. CTC (Comp Year):</b>	\$ 4.0 million (FY 2006)
<b>Size:</b>	1,374 acres	<b>IRP Sites (Final RIP/RC):</b>	2 (FY2006)
<b>Mission:</b>	Supported Site R underground facility	<b>MMRP Sites (Final RIP/RC):</b>	5 (FY2003)
<b>HRS Score:</b>	N/A	<b>Five-Year Review Status:</b>	Planned
<b>IAG Status:</b>	None		
<b>Contaminants:</b>	Heavy metals, asbestos, VOCs, UXO		
<b>Media Affected:</b>	Groundwater and Soil		
<b>Funding to Date:</b>	\$ 9.7 million		



Fort Ritchie, Maryland

## Progress To Date

In 1995, the BRAC Commission recommended the closure of Fort Ritchie. The installation closed in September 1998. Environmental contamination at Fort Ritchie resulted from underground storage tanks (USTs), various firing ranges, and a skeet range. The ranges may contain unexploded ordnance (UXO). Housing units and administrative buildings contain asbestos and lead-based paint. Interim actions at the installation included removal or replacement of USTs, relining of sewer lines with plastic, removal of falling lead paint and high-hazard friable asbestos, closure of an incinerator, and UXO removals. In FY96, the Army formed a BRAC cleanup team and a Restoration Advisory Board. Measures to improve communication and decision-making at the installation included forming a planning group, conducting meetings at the town hall, conducting quarterly in-progress reviews, establishing hotlines to answer employee questions, and relaying installation updates to the local news media. In FY97, the installation completed the UXO archive search with the help of the U.S. Army Corps of Engineers, St. Louis District. In FY98, the installation completed the UXO sampling and UXO interim characterization report. In FY99, the Army published a final engineering evaluation and cost analysis for the ordnance and explosives impact area.

To date, the installation has completed one Record of Decision (ROD). In FY03, the Army completed an inventory of all Munitions Response Program (MMRP) sites. The Army has made more than 300 acres of non-UXO property available for reuse. The cleanup progress at Fort Ritchie for FY03 through FY06 is detailed below.

In FY03, the Army completed Phase II of the motor pool corrective action plan, an inventory of MMRP sites, the munitions and explosives of concern (MEC) removal action report, a motor pool decision document, a finding of suitability to transfer (FOST), and the final inventory of closed, transferred, and transferring ranges and sites with UXO, discarded military munitions, or munitions constituents. MMRP sites where identified at this installation, all of which are response complete.

In FY04, the installation completed the polishing round of permanganate treatment under the motor pool floor slab and continued monitoring motor pool wellheads.

In FY05, Fort Ritchie continued monitoring motor pool wellheads. The installation completed the feasibility study (FS) and proposed plan (PP) for motor pool. The installation completed the MEC removal action in the Fill Area.

In FY06, Fort Ritchie completed a revised FS, a revised PP that recommended land use controls with monitoring, and a revised ROD for the motor pool. The installation initiated long-term management (LTM) for motor pool.

## FY07 IRP Progress

Fort Ritchie completed the ROD and signed the FOST for the motor pool. The LTM work plan for the motor pool was also finalized. The cost of completing environmental restoration has changed significantly due to changes in estimating criteria.

The installation did not complete the baseline sampling due to regulatory issues.

## FY07 MMRP Progress

Fort Ritchie completed the FOST for the Fill Area.

The installation did not initiate the LTM for Fill Area due to regulatory issues.

## Plan of Action

Plan of action items for Fort Ritchie are grouped below according to program category.

### IRP

- Initiate LTM of the motor pool in FY08.
- Begin baseline sampling in FY08.

### MMRP

- Initiate LTM of Fill Area in FY08.
- Provide construction clearance support as needed in FY08.

<b>FFID:</b>	IL521402083800	<b>Funding to Date:</b>	\$ 56.9 million
<b>Size:</b>	709 acres	<b>Est. CTC (Comp Year):</b>	\$ 14.3 million (FY 2003)
<b>Mission:</b>	Provided administrative and logistical support; non-excess property currently used as Army Reserve installation and Navy housing area	<b>IRP Sites (Final RIP/RC):</b>	69 (FY2001)
<b>HRS Score:</b>	N/A	<b>MMRP Sites (Final RIP/RC):</b>	2 (FY2003)
<b>IAG Status:</b>	None	<b>Five-Year Review Status:</b>	Planned
<b>Contaminants:</b>	Metals, VOCs, UXO, fuel hydrocarbons, PAHs		
<b>Media Affected:</b>	Groundwater and Soil		



Fort Sheridan, Illinois

## Progress To Date

Fort Sheridan's missions have included cavalry and infantry training, Nike systems maintenance, and administrative and logistical support. In December 1988, the BRAC Commission recommended closure of Fort Sheridan. Currently, the Army uses 104 acres for an Army Reserve installation. Sites include landfills, pesticide storage areas, hazardous material storage areas, underground storage tanks (USTs), polychlorinated biphenyl (PCB)-containing transformers, and unexploded ordnance (UXO) areas. Petroleum hydrocarbons, volatile organic compounds (VOCs), and polyaromatic hydrocarbons (PAHs) affect groundwater and soil. Early actions included removal of USTs and contaminated soil. Remedial investigation and feasibility study activities, beginning in FY90, identified groundwater and soil contamination at seven landfills and coal storage areas. In FY94, the installation formed a BRAC cleanup team and an installation survey identified UXO at the former artillery range. In FY95, the installation formed a Restoration Advisory Board (RAB). In FY96, the installation performed a UXO clearance. In FY99, the RAB requested and received a Technical Assistance for Public Participation contract to support RAB activities.

The Army completed an inventory of all Military Munitions Response Program (MMRP) sites, in FY03. The cleanup progress at Fort Sheridan for FY03 through FY06 is detailed below.

In FY03, the Army prepared proposed plans (PPs) for Coal Storage Area (CSA) 3 and Landfill (LF) 5 and initiated the No Further Action (NFA) Decision Document (DD) for Sites CSA 4, Vehicle Equipment Storage 8, the water tower, and pesticides in Building 70. The Army completed the closed, transferred, and transferring range inventory. A MMRP inventory was completed within the BRAC portion of the installation.

In FY04, the installation completed the NFA DD for Sites CSA 4, VES 8, the water tower, and pesticides in Building 70. The Army initiated the NFA DD for Bartlett Ravine, Van Horne Ravine, Shenck Ravine, Excavation Area 8, Beach Pistol/Machine Gun Range, Wells Ravine Northern Tributary, and Wells Ravine Western Extension. The installation completed construction of the LFs 6 and 7 cap. The DD for Site CSA 3 and LF 5 and implementation of the remedy progressed.

The Army completed the PP for LF 1 and initiated the DD. The installation prepared a draft operation and maintenance (O&M) plan and a groundwater monitoring plan for LFs 6 and 7.

In FY05, the installation completed the O&M and groundwater monitoring plans for LFs 6 and 7, and implemented the O&M plan. The installation completed the DD and its implementation for CSA 3 and LF 5. The Army also completed the DD for LF 1. The installation prepared removal action completion reports for sites CSA 4, VES 8, the water tower, and Building 70.

In FY06, Fort Sheridan implemented the groundwater monitoring plan for LFs 5, 6, and 7. The installation also implemented O&M and long-term management of Site CSA 3 and LF 5, and completed the closure reports for these sites.

## FY07 IRP Progress

Fort Sheridan continued O&M work. The installation initiated a pilot study for LFs 6 and 7. The Army completed an interim remedy of LF 1. The installation completed the final PP and DD for the NFA sites and LFs 6 and 7. The Army initiated a 5-year review.

## FY07 MMRP Progress

The Army completed an SI on excess properties.

## Plan of Action

Plan of action items for Fort Sheridan are grouped below according to program category.

### IRP

- Achieve approval for PP and DD documents for the NFA sites and for LFs 6 and 7 in FY08.
- Complete 5-year review process in FY08.
- Complete the NFA DD for the Bartlett Ravine, Van Horn Ravine, Shenck Ravine, Excavation Area 8, Beach Pistol/Machine Gun Range, Wells Ravine Northern Tributary, and Wells Ravine Extension in FY08.
- Complete the record of decision for Landfill 1 and complete all related remediation actions in FY08-FY09.

## MMRP

- Begin remedial investigation/feasibility study activates in FY09.

<b>FFID:</b>	AK021452242600	<b>Funding to Date:</b>	\$ 148.8 million
<b>Size:</b>	917,993 acres	<b>Est. CTC (Comp Year):</b>	\$ 72.7 million (FY 2037)
<b>Mission:</b>	Serve as headquarters of the 172nd Infantry Brigade (Separate)	<b>IRP Sites (Final RIP/RC):</b>	79 (FY2010)
<b>HRS Score:</b>	50.00; placed on NPL in August 1990	<b>MMRP Sites (Final RIP/RC):</b>	15 (FY2017)
<b>IAG Status:</b>	FFA signed in November 1991	<b>Five-Year Review Status:</b>	Completed and planned
<b>Contaminants:</b>	PCBs, SVOCs, POLs, heavy metals, solvents, pesticides, paints, UXO		
<b>Media Affected:</b>	Groundwater and Soil		



Fairbanks, Alaska

## Progress To Date

Since World War II, Fort Wainwright has housed light infantry brigades, most recently the 172nd Stryker Brigade Combat Team and the 1-501st Airborne Battalion. Studies at the installation identified drum burial sites, underground storage tanks, a railroad car off-loading facility, an open burning and open detonation area, a former ordnance disposal site, solvent groundwater plumes, petroleum/oil/lubricant (POL) plumes, and pesticide-contaminated soil. EPA placed Fort Wainwright on the NPL in 1990. The Army and EPA signed a federal facility agreement (FFA) in 1991. In FY97, Fort Wainwright convened a Restoration Advisory Board (RAB), which adjourned in FY04 at the recommendation of the community co-chair and community RAB members. The installation gauged the community's desire to reconvene the RAB in FY07; insufficient interest was received. The Army completed 5-year reviews in FY01 and FY06.

Of the 51 eligible CERCLA sites identified in the FFA, 19 sites required no further action and 32 sites were placed into 5 operable units (OUs). Since 1991, 13 sites have closed and 2 new sites have been added, for a total of 21 active sites. To date, the installation has signed five Records of Decision (RODs); a new operable unit was formally added in 2007. In FY02, the Army completed an inventory of all Military Munitions Response Program (MMRP) sites. The cleanup progress at Fort Wainwright for FY03 through FY06 is detailed below.

In FY03, the installation evaluated the OU 3 product recovery system. The Army completed cleanup operations and site exit strategies (CLOSES) evaluations at two sites and initiated the same for additional sites. The installation continued to evaluate each site's operation, maintenance and monitoring, and long-term management plans. The Army continued evaluation of the Building 1168 (OU 2) Defense Reutilization and Marketing Office remediation systems. The installation reduced monitoring efforts at the Coal Storage Yard (OU 4) and OU 5 in accordance with CLOSES evaluations.

In FY04, the installation completed CLOSES at six additional sites. The Army achieved site closeout at the Coal Storage Yard site. The installation implemented reductions in operations

and maintenance (O&M), specifically monitoring requirements on various sites in large part due to the completed CLOSES evaluations. The installation reviewed the MMRP sites during the annual Installation Action Plan (IAP) Workshop and included them in the final FY04 IAP.

In FY05, the installation continued using the CLOSES evaluations to reduce O&M requirements. The Army discovered the former communications site (FCS) was contaminated with polychlorinated biphenyls (PCBs). The installation conducted the initial stages of a preliminary site evaluation and removed some PCB-contaminated soils. The installation conducted additional sampling at the Birch Hill Tank Farm aboveground storage tank (AST) site to determine if the site requires additional action. The installation continued evaluation of MMRP sites during development of IAPs.

In FY06, Fort Wainwright determined additional actions (removal, disposal, sampling) were required at the Birch Hill Tank Farm AST site. The Army completed the 5-year review and site closeout of additional POL sites. The installation continued using the CLOSES evaluation to reduce O&M requirements. The installation continued to solicit community interest to warrant RAB reactivation. At the FCS, the preliminary source evaluation field work uncovered several pieces of discarded military munition (DMM), two of which required site clearances and stop work orders until the DMM could be identified and removed from the area.

## FY07 IRP Progress

Fort Wainwright initiated a remedial investigation (RI) at the former communication site, now formally designated as OU 6. Land use controls were also formally established. The installation continued using the CLOSES evaluations to reduce O&M requirements at the other sites, which resulted in reductions of groundwater monitoring requirements as well as cessation of some remedial operations. The installation also completed actions required by the 5-year review. The cost of completing environmental restoration has changed significantly due to technical issues.

Administrative issues delayed evaluation of the Birch Hill summary report until FY08.

There is insufficient interest from the community for RAB reactivation at this time.

## FY07 MMRP Progress

The installation conducted MMRP site inspections (SIs). During the drum and debris remedial investigations at OU 6, several DMM were found; several just under the surface.

## Plan of Action

Plan of action items for Fort Wainwright are grouped below according to program category.

### IRP

- Complete Birch Hill summary report and determine whether to pursue a technical impracticability waiver in FY08.
- Continue using CLOSES evaluations to reduce O&M and achieve site closeout in FY08-FY09.
- Continue to evaluate rebound at sites where systems have been turned off in FY08-FY09.
- Complete RI and feasibility study at the FCS (OU 6) in FY09; begin proposed plan/ROD in FY09.
- Complete and evaluate summary reports for two additional sites by FY09.

### MMRP

- Evaluate SI results in FY08.

<b>FFID:</b>	NM621382097400	<b>Contaminants:</b>	UXO, PCBs, pesticides, heavy metals, asbestos, lead/PCB-based paint, explosive compounds, VOCs, SVOCs, propellants
<b>Size:</b>	21,881 acres	<b>Media Affected:</b>	Groundwater, Sediment, Soil
<b>Mission:</b>	Stored, shipped, and received ammunition components and disposed of obsolete or deteriorated explosives and ammunition	<b>Funding to Date:</b>	\$ 40.1 million
<b>HRS Score:</b>	N/A	<b>Est. CTC (Comp Year):</b>	\$ 152.0 million (FY 2019)
<b>IAG Status:</b>	None	<b>IRP Sites (Final RIP/RC):</b>	43 (FY2019)
		<b>MMRP Sites (Final RIP/RC):</b>	5 (FY2017)
		<b>Five-Year Review Status:</b>	A 5-year review is not required for this installation.



Gallup, New Mexico

## Progress To Date

In 1988, the BRAC Commission recommended closure of Fort Wingate. The installation was required to store, test, and demilitarize munitions. Restoration efforts have focused on land affected by ordnance-related wastes, unexploded ordnance (UXO), and other contaminants. The affected areas are the open burning and open detonation (OB/OD) ground, soil at a pistol range, pesticide-contaminated soil at Building 5, explosives-contaminated soil at the former bomb washout plant lagoons, polychlorinated biphenyl (PCB) contamination in Buildings 11 and 501, the former explosive washout plant (Building 503), and three solid waste landfills. In FY94, the installation formed a BRAC cleanup team (BCT) and a Restoration Advisory Board (RAB). In FY95, the installation revised its BRAC cleanup plan. In FY06, the installation developed a community relations plan (CRP).

The installation has transferred over 5,400 acres to date. In FY03, the Army completed an inventory of all Military Munitions Response Program (MMRP) sites. The cleanup progress at Fort Wingate for FY03 through FY06 is detailed below.

In FY03, the installation completed groundwater sampling at the TNT Leaching Beds. The Army completed an inventory of closed, transferred, and transferring ranges and sites with UXO, discarded military munitions or munitions constituents. Several MMRP sites were identified at this installation. The Army completed clearance for the OB/OD area western boundary fence.

In FY04, the installation completed quarterly groundwater sampling at the TNT Leaching Beds.

In FY05, Fort Wingate removed ash and soil from deactivated furnace area. The installation completed groundwater sampling at the OB/OD ground and completed groundwater investigations at the Eastern Landfill by installing four borings and two wells. The Army negotiated RCRA post-closure permit requirements and developed a work schedule and funding requirements for future cleanup. The installation discussed future MMRP actions during the RCRA post-closure permit requirements negotiations.

In FY06, Fort Wingate was issued a RCRA permit by New Mexico Environmental Department (NMED) that became effective on December 31, 2005. The installation hired a permanent, on site BRAC Environmental Coordinator to oversee the cleanup program and execution of the RCRA permit. The installation initiated development of a work plan for the RCRA facility investigation (RFI) at Parcel 21. Fort Wingate prepared and submitted a historical aerial photo interpretation report and a hydrogeologic summary report to NMED. The installation developed the first comprehensive cost-to-complete estimate. Fort Wingate initiated development of work plans for the kick-out area of the OB/OD grounds. As required by the RCRA permit, a detailed map of all munitions and explosives of concern (MEC) found since closure of Fort Wingate was included in the CRP. The installation constructed a 3-mile long fence along the western boundary of the OB/OD grounds, which reduces the chance of adjacent property owners encountering MEC. The installation held the first RAB and BCT meetings since the negotiation of the RCRA permit. Fort Wingate initiated extensive consultation with the Pueblo of Zuni and the Navajo Nation that will continue for the duration of the cleanup program.

## FY07 IRP Progress

Fort Wingate developed programmatic and comprehensive agreements to address Zuni and Navajo cultural resources during the cleanup. RFI work plans and release assessments for Parcels 11, 12, 14, 21, 22 and 25 were developed and are under review by stakeholders. The installation completed the interim installationwide groundwater monitoring plan and off-site groundwater investigation work plans, which were reviewed by stakeholders. Additionally, the summary report of historical information was completed. The cost of completing environmental restoration has changed significantly due to technical and regulatory issues and changes in estimating criteria.

The environmental information management system and a facility ecological-risk assessment work plan were delayed due to contractual issues.

Semi-annual BCT meetings were held, but the RAB remains inactive due to the lack of public interest. The Army and Pueblo of Zuni finalized a cooperative agreement to reimburse the tribe

for review of technical documents. A similar agreement between the Army and the Navajo Nation was drafted.

## FY07 MMRP Progress

The Army submitted and negotiated a conceptual plan for the corrective action management unit (CAMU) to support MMRP operations. The Army awarded a contract to develop a closure plan of the OB/OD hazardous waste management unit. The installation submitted an improved conventional munitions waiver to the U.S. Army Technical Center for Explosive Safety requesting authorization for future work at Parcel 3.

Due to regulatory issues the installation was not able to define the OB/OD kick-out area and submit the report to the State. Technical and regulatory issues delayed the OB/OD grounds closure plan.

## Plan of Action

Plan of action items for Fort Wingate are grouped below according to program category.

### IRP

- Complete facility wide ecological-risk assessment work plan in FY08.
- Conduct facility wide groundwater sampling in FY08.
- Prepare RFI work plans and release assessments for Parcels 4, 6, and 24 in FY08.
- Finalize cultural resources agreements with tribes in FY08.
- Complete RFI work plans and release assessments for Parcels 11, 12, 14, 21, 22, and 25 in FY08.
- Transfer Parcels 14 and 25 in FY08.

### MMRP

- Obtain permit modification to construct CAMU in FY08.
- Establish chemical explosive MEC storage in Igloo Block B to support MMRP in FY08.
- Construct CAMU in FY09.

<b>FFID:</b>	MN517002291400	<b>Est. CTC (Comp Year):</b>	\$ 8.5 million (FY 2021)
<b>Size:</b>	83 acres	<b>IRP Sites (Final RIP/RC):</b>	5 (FY2002)
<b>Mission:</b>	Design and manufacture advanced weapons systems	<b>MMRP Sites (Final RIP/RC):</b>	None
<b>HRS Score:</b>	30.83; placed on NPL in November 1989	<b>Five-Year Review Status:</b>	Completed and planned
<b>IAG Status:</b>	FFA signed in March 1991		
<b>Contaminants:</b>	POLs, VOCs, SVOCs, TCE, metals, cyanide		
<b>Media Affected:</b>	Groundwater and Soil		
<b>Funding to Date:</b>	\$ 36.6 million		



Fridley, Minnesota

**Progress To Date**

Fridley Naval Industrial Reserve Ordnance Plant (NIROP) designs and manufactures advanced weapons systems. Investigations conducted at this government owned, contractor operated installation identified trichloroethylene (TCE) in groundwater. The facility was placed on the NPL in November 1989, because of the TCE contamination in the groundwater, which discharges into the Mississippi River upstream from the Minneapolis drinking water plant. Site types include waste disposal pits and trenches, source areas beneath the main industrial plant, a foundry core butt disposal area, and sitewide groundwater contamination. Wastes and contaminants associated with these site types include petroleum/oil/lubricants (POLs), solvents, plating sludge, construction debris, and foundry sands. The installation signed a federal facility agreement (FFA) in March 1991. The installation formed a technical review committee in FY93 and converted it to a Restoration Advisory Board in FY95. The community relations plan was prepared in FY91 and was updated in FY97. An administrative record was also compiled, and an information repository established in FY95. Naval Sea Systems Command sold the NIROP site in June 2004. The Navy completed a 5-year review in FY04.

To date, the installation has completed a Record of Decision (ROD) for Operable Units (OUs) 1, 2, and 3. In addition, it achieved response complete status for Sites 1 and 2. The Navy completed an inventory of all Military Munitions Response Program (MMRP) sites in FY02. The cleanup progress at Fridley NIROP for FY03 through FY06 is detailed below.

In FY03, the installation signed RODs for OUs 2 and 3. Two additional rounds of sampling were conducted to determine if pilot scale project is a success. The installation continued the operation of the OU 1 pump-and-treat groundwater containment system. Major portions of the 5-year review requirements were completed.

In FY04, Fridley NIROP completed the land use control remedial design. The Navy sold the NIROP site. The installation completed a 5-year review for OU 1. It also continued operation of the OU 1 pump-and-treat groundwater containment system. The installation evaluated results of pilot scale enhanced

bioremediation study and found that the pilot study was a limited success.

In FY05, Fridley NIROP continued operation of the OU 1 pump-and-treat groundwater containment system. The installation continued monitoring the enhanced bioremediation pilot study approved by Minnesota Pollution Control Agency (MPCA) and EPA. In addition, the installation conducted a first round of extended monitoring at the Anoka County Riverfront Park.

In FY06, Fridley NIROP continued operation of the OU 1 groundwater pump-and-treat system. The installation conducted additional monitoring of the enhanced bioremediation pilot study and completed the final pilot study report.

**FY07 IRP Progress**

Fridley NIROP continued operation of the OU 1 pump-and-treat groundwater system. The U.S. Geological Survey (USGS) completed their final report of the effectiveness of the groundwater pump-and-treat system to capture and control the plume and also of the subsurface conditions. The installation continued monitoring the effects of the vegetable oil injection study and issued the vegetable oil study final report. The MPCA initiated a statewide survey of facilities that may have stored and/or used perfluorochemicals (PFCs), and the installation was identified as a possible location where these products chemicals were stored and used. The Navy and the Department of Justice continue to resolve the cost recovery and potentially responsible party issue. A new O&M contract was issued that resulted in a cost savings of approximately \$100,000 each year for the life of the contract. The cost of completing environmental restoration has changed significantly due to technical issues.

**FY07 MMRP Progress**

The Navy has identified no MMRP sites at this installation.

**Plan of Action**

Plan of action items for Fridley Naval Industrial Reserve Ordnance Plant are grouped below according to program category.

**IRP**

- Continue operation of the groundwater treatment facility in FY08.
- Finalize the annual monitoring plans in FY08.
- Update the remedial action work plan in FY08.
- Achieve consensus on the vegetable oil injection study report recommendations in FY08.
- Complete the review of the USGS effectiveness report in FY08.
- Complete a 5-year review in FY08.
- Renew permit for groundwater treatment system in FY08.

**MMRP**

There are no MMRP actions scheduled for FY08 or FY09.

<b>FFID:</b>	AK057302865500	<b>Media Affected:</b>	Groundwater and Soil
<b>Size:</b>	166 acres	<b>Funding to Date:</b>	\$ 23.3 million
<b>Mission:</b>	Served as an active refueling stop for aircraft bound for the Soviet Union under the Lend-Lease program in World War II, and later as a forward operating location for the Air Force as part of the NORAD Mission.	<b>Est. CTC (Comp Year):</b>	\$ 10.5 million (FY 2016)
<b>HRS Score:</b>	N/A	<b>IRP Sites (Final RIP/RC):</b>	20 (FY2008)
<b>IAG Status:</b>	None	<b>MMRP Sites (Final RIP/RC):</b>	1 (FY2013)
<b>Contaminants:</b>	TCE, POLs, benzene, VOCs, SVOCs, metals	<b>Five-Year Review Status:</b>	A 5-year review is not required for this installation.



Galena, Alaska

## Progress To Date

Galena Forward Operating Location (FOL) is located on the Yukon River about 270 miles west of Fairbanks, Alaska. The airport was constructed in 1940 and the Air Force has had joint civilian-military use of the airfield since 1951. The active duty force at the installation was drawn down in 1993. In 2005, the BRAC Commission recommended closure of the Galena FOL. Galena FOL occupies 166 acres of land and is comprised of a number of buildings and other structures. The majority of facilities at Galena Airport are owned by the Air Force, although other non-Air Force properties exist as well. Military operations over the years have released hazardous chemicals via spills or historical disposal practices, resulting in numerous identified Installation Restoration Program (IRP) sites. The Air Force and the Alaska Department of Environmental Conservation work with local stakeholders, including the Loudon Tribal Council, City of Galena, and Galena City Schools, through the Galena Technical Project Team, to address environmental concerns. In addition, Galena community members communicate with the installation through the Restoration Advisory Board (RAB), which was formed in 2004. The cleanup progress at Galena FOL for FY03 through FY06 is detailed below.

In FY03, the installation tested bioventing treatment systems at Million Gallon Hill and the petroleum/oil/lubricant (POL) Tank Farm. The Air Force Center for Environmental Excellence (now known as the Air Force Center for Engineering and the Environment) conducted a remedial scoping visit for the entire installation. The Air Force continued working with local stakeholders.

In FY04, the installation initiated a comprehensive remedial investigation and feasibility study (RI/FS) for multiple sites. The Air Force continued testing the bioventing treatment systems at Million Gallon Hill and the POL Tank Farm.

In FY05, the installation conducted monthly sampling of the base drinking water. The Air Force continued the comprehensive RI/FS. The Air Force began conducting preliminary assessments (PAs) for all identified Military Munitions Response Program (MMRP) sites.

In FY06, Galena FOL continued the RI/FS to assess the total extent of contamination. As part of the RI/FS, the installation

initiated a baseline risk assessment to address the risks at each IRP site, including potential risks to subsistence resources. The Air Force continued the PAs at all identified MMRP sites. Initial Munitions Response Site Prioritization Protocol ratings for each MMRP site were developed. Galena FOL briefed the RAB on current activities at the installation.

## FY07 IRP Progress

Galena FOL continued work on the RI/FS and site characterizations to ensure proper return of lands and release of facilities in accordance with BRAC requirements. The installation continued working to finalize institutional and land use controls associated with operational closure. The cost of completing environmental restoration has changed significantly due to changes in estimating criteria.

The installation briefed the RAB on progress to date and held meetings with the community to maintain awareness and communication.

## FY07 MMRP Progress

Galena FOL completed PAs at all identified MMRP sites.

## Plan of Action

Plan of action items for Galena Forward Operating Location are grouped below according to program category.

### IRP

- Prepare Records of Decision in FY08.
- Implement remedial process optimization recommendations in FY08.
- Execute operational closure of installation in FY08.

### MMRP

- Complete site inspections in FY08-FY09.

<b>FFID:</b>	OH597152435700	<b>Funding to Date:</b>	\$ 10.7 million
<b>Size:</b>	164 acres	<b>Est. CTC (Comp Year):</b>	\$ 0.9 million (FY 2008)
<b>Mission:</b>	Provided logistical support to the military services by supplying electrical and electronic material	<b>IRP Sites (Final RIP/RC):</b>	22 (FY2002)
<b>HRS Score:</b>	N/A	<b>MMRP Sites (Final RIP/RC):</b>	None
<b>IAG Status:</b>	None	<b>Five-Year Review Status:</b>	Completed and planned
<b>Contaminants:</b>	Solvents, pile runoff (VOCs and SVOCs), metals, residual POLs		
<b>Media Affected:</b>	Soil and Groundwater		



Kettering, Ohio

**Progress To Date**

Gentile Air Force Station (AFS) provided logistical support to the military services by supplying electrical and electronic material. In July 1993, the BRAC Commission recommended closure of the Defense Electronics Supply Center (Gentile AFS) and relocation of its mission to the Defense Construction Supply Center in Columbus, Ohio. The installation closed in December 1996. Sites identified at the installation include underground storage tanks; areas of past industrial operations; and landfills containing construction debris, hardfill, waste oil, solvents, asbestos, low-level radioactive waste, and a subsurface material suspected to be paint thinner. Releases from these sites have contaminated soil and groundwater. In FY93, the installation's BRAC cleanup team (BCT) developed a BRAC cleanup plan for investigating sites and areas of concern. A Restoration Advisory Board (RAB) was formed in FY94, and it adjourned in FY05. DLA's involvement in environmental restoration at the installation was terminated at the end of FY98 by a memorandum of agreement with the Air Force Real Property Agency. The Air Force completed the first 5-year review in FY04.

Twelve sites were closed between FY97 and FY01 with No Further Remedial Action Planned (NFRAP) decision documents (DDs). Another 18 sites have conditional NFRAP DDs where future use is limited to commercial or industrial use. Ten sites are included in 2 Installation Restoration Program (IRP) remedial action DDs (September 2000 and July 2002), which determined that institutional controls are needed at all ten sites to restrict exposure to potential contamination. To date, one Record of Decision has been signed. All property at the installation has been transferred. In FY04, the Air Force conducted an inventory of Military Munitions Response Program sites (MMRP). The cleanup progress at Gentile AFS for FY03 through FY06 is detailed below.

In FY03, the Air Force finalized the long-term management (LTM) work plan for Parcel E, installed monitoring wells, and conducted five rounds of groundwater monitoring at Landfill (LF) 008 and Spill Site (SS) 035. The fourth annual report for Site WP 026 was finalized and semiannual groundwater sampling was conducted at LF 008, WP 026, SS 028, and SS 035. The installation signed an explanation of significant differences to remove commercial/industrial use restrictions at

Sites RW 004 and C6, thus enabling the removal of the restrictive covenant for Parcel C and making the parcel suitable for unrestricted use. The installation prepared an operating properly and successfully (OP&S) demonstration for groundwater monitoring at LF 008 and SS 035 following a soil removal action.

In FY04, the first 5-year review was completed and received EPA concurrence. The OP&S demonstration for LF 008 and SS 035 was finalized and approved by EPA. Property transfer documents were finalized for Parcel E. The Agency for Toxic Substances and Disease Registry completed a public health assessment and determined there were no public health hazards. Remedial action operations (RA-O) at LF 008, WP 026, SS 028, and SS 035 continued. The Air Force conducted an inventory of MMRP sites. No MMRP sites were identified at this installation.

In FY05, the Air Force transferred the remaining 26-acre Parcel E to the local redevelopment authority. RA-O at LF 008, WP 026, SS 028, and SS 035 continued under a new performance-based contract. The RAB was formally adjourned.

In FY06, RA-O groundwater monitoring activities continued at SS 028 and SS 035, and LTM was conducted at WP 026. Remediation goals were met at LF 008, and the BCT signed a no further action (NFA) DD. An aqueous solution of food grade vegetable oil and simple sugars was added to the groundwater at each of the sites to serve as a long-term electron donor and accelerate site closure. The Air Force completed planning and regulatory agency coordination required to decommission all obsolete monitoring wells.

**FY07 IRP Progress**

Gentile AFB continued RA-O and LTM groundwater sampling activities at WP 026, SS 028, and SS 035. The BCT concurred with a groundwater monitoring optimization program by signing a statement of basis for a reduction in groundwater sampling for Sites WP 026, SS 028, and SS 035. The installation finalized an updated land use controls/institutional controls map. The installation also decommissioned obsolete monitoring wells.

RA-O and LTM did not occur at LF 008 because the site required NFA.

The BCT met once.

**FY07 MMRP Progress**

The Air Force has identified no MMRP sites at this installation.

**Plan of Action**

Plan of action items for Gentile Air Force Station are grouped below according to program category.

**IRP**

- Continue RA-O and LTM groundwater sampling activities at Sites WP 026, SS 028, and SS 035 in FY08-FY09.

**MMRP**

There are no MMRP actions scheduled for FY08 or FY09.

<b>FFID:</b>	CA957002445300	<b>Est. CTC (Comp Year):</b>	\$ 45.2 million (FY 2037)
<b>Size:</b>	5,062 acres	<b>IRP Sites (Final RIP/RC):</b>	77 (FY2011)
<b>Mission:</b>	Provided tactical fighter operations support	<b>MMRP Sites (Final RIP/RC):</b>	8 (FY2009)
<b>HRS Score:</b>	33.62; placed on NPL in February 1990	<b>Five-Year Review Status:</b>	Completed and planned
<b>IAG Status:</b>	FFA signed in October 1990		
<b>Contaminants:</b>	POLs, VOCs, lead, SVOCs, metals, radioactive materials		
<b>Media Affected:</b>	Groundwater, Surface Water, Soil		
<b>Funding to Date:</b>	\$ 104.1 million		



Victorville, California

## Progress To Date

George Air Force Base (AFB) provided tactical fighter operations support. The 1988 BRAC Commission recommended closure of George AFB. In December 1992, the installation closed. EPA placed the installation on the NPL in February 1990 and the Air Force signed a federal facility agreement (FFA) in October 1990. Environmental studies conducted at George AFB have identified the following site types: landfills, petroleum spill sites, underground storage tanks (USTs), waste storage and disposal units, and fire training areas. Interim actions at the installation have included removal of more than 80 USTs and contaminated soil, and cleanup and closure of a hazardous waste storage yard. In FY92, the installation formed a BRAC cleanup team (BCT) and converted its technical review committee to a Restoration Advisory Board (RAB). The installation completed 5-year reviews in FY01 and FY06.

Sites have been grouped into five operable units (OUs). OU 2, the fuels and pesticide sites, has been removed from CERCLA. To date, Records of Decision (RODs) have been signed for OUs 1 and 3. In FY04, the Air Force conducted an inventory of Military Munitions Response Program (MMRP) sites. The cleanup progress at George AFB for FY03 through FY06 is detailed below.

In FY03, the Air Force and EPA agreed on a risk-based closure of the second skeet range to unrestricted usage of the property. A remedial process optimization study was conducted in November 2002 to identify opportunities for enhancing the effectiveness and efficiency of remediation efforts.

In FY04, George AFB completed the hydrogeologic geologic conceptual model (CSM) for the OU 1 groundwater treatment system. The installation completed aquifer testing and is using the information to update the CSM. The installation converted three monitoring wells to extraction wells to enhance the cleanup systems for the OU 1 treatment system. At OU 2, the Air Force continued to remove over 20,000 pounds of petroleum vapor per month and average over 1,000 gallons of free product per month. At OU 3, the Air Force continued to operate several soil cleanup systems. In addition, landfill monitoring and landfill cap maintenance continued.

The Air Force conducted an inventory of MMRP sites. MMRP sites were identified at this installation.

In FY05, the installation shut down the bioventing system at Site WP 017. The remedial equipment was decommissioned and removed from the former site. The installation continued operating the treatment systems at OUs 1, 2, and 3, and continued landfill monitoring and landfill cap maintenance. The Air Force established OU 4, which included nine areas of concern. The OU 1 groundwater treatment system remained in standby mode while groundwater fate and transport modeling was conducted. The Air Force initiated preparation of the second 5-year review. The OU 2 fuel plume was removed from the interagency agreement; remediation continued under the State corrective action program. The Air Force began evaluating requirements at MMRP sites. The BCT met frequently and the RAB held an annual meeting.

In FY06, George AFB continued groundwater modeling for OU 1. The installation conducted preliminary fate and transport scenarios. Additionally, OU 5 was identified, which consisted of two volatile organic compound (VOC) sources found in the soil. Soil vapor extraction (SVE) systems were installed as interim remedies at both sites. Free product recovery and SVE continued at the non-CERCLA fuel site. The installation completed a 5-year review. The installation submitted the proposed plan for the OU 4 ROD to regulators. The installation cleared and closed the explosive ordnance disposal Proficiency Training Area.

## FY07 IRP Progress

George AFB continued to operate SVE systems and monitor groundwater. Two new SVE systems were installed at the former fire training sites. The OU-1 groundwater model was completed and a free product recovery system was operated to remove jet fuel at non-CERCLA fuel sites. The cost of completing environmental restoration has changed significantly due to changes in estimating criteria.

The Air Force Real Property Agency (AFRPA) awarded the contract to develop the focused feasibility study (FFS) and finalize the ROD for OU 4; therefore, the OU 4 ROD was not finalized.

## FY07 MMRP Progress

The Air Force submitted documentation to close the former 40 mm Grenade Range.

## Plan of Action

Plan of action items for George Air Force Base are grouped below according to program category.

### IRP

- Complete OU 4 FFS and ROD for the no further action sites in FY08.
- Continue to fill data gaps for non-CERCLA fuel and pesticide sites, and develop corrective action plans in FY08.
- Install new monitoring wells at the pesticide site in FY08.
- Evaluate various remediation scenarios using the groundwater model and identify long-term remedy for OU 1 in FY08.
- Continue to operate SVE and free product recovery systems, and monitor groundwater in FY08-FY09.

### MMRP

- Complete closure documentation for remaining MMRP sites in FY08.

<b>FFID:</b>	NY257002445100	<b>Funding to Date:</b>	\$ 138.0 million
<b>Size:</b>	3,638 acres	<b>Est. CTC (Comp Year):</b>	\$ 24.4 million (FY 2036)
<b>Mission:</b>	Supported bomber and tanker operations	<b>IRP Sites (Final RIP/RC):</b>	68 (FY2009)
<b>HRS Score:</b>	34.20; placed on NPL in July 1987	<b>MMRP Sites (Final RIP/RC):</b>	12 (FY2004)
<b>IAG Status:</b>	FFA signed in June 1990	<b>Five-Year Review Status:</b>	Completed and planned
<b>Contaminants:</b>	Heavy metals, PCBs, grease, degreasers, caustic cleaners, dyes, penetrants, VOCs, TCE, UXO, SVOCs, radioactive materials, explosives, propellants		
<b>Media Affected:</b>	Groundwater, Surface Water, Sediment, Soil		



Rome, New York

## Progress To Date

The mission of Griffiss Air Force Base (AFB) was to support bomber and tanker aircraft operations. EPA placed the installation on the NPL in 1987 and the Air Force signed a federal facility agreement (FFA) in June 1990. The 1993 BRAC Commission recommended realignment of Griffiss AFB and, in 1995, the BRAC Commission recommended further realignment of the installation. Following the realignment actions, the Air Force retained 136 acres for Rome Laboratory and Air National Guard Northeast Air Defense Sector facilities. Sites identified at the installation include landfills, underground storage tanks (USTs), fire training areas, disposal pits, and spill areas. Possible off-site groundwater contamination was also identified. Interim actions conducted at the facility between FY86 and FY91 include modification of a landfill cap and removal of contaminated soil and USTs from a tank farm, various disposal pits, and the area adjacent to an aircraft nosedock. In FY95, the installation completed an Environmental Baseline Survey and, in FY96, the installation completed an environmental impact statement. Griffiss AFB formed a BRAC cleanup team (BCT) and a Restoration Advisory Board (RAB) in FY95. The BRAC cleanup plan was completed the same year. The installation received technical assistance for public participation funding in FY99. The installation completed the first 5-year review in FY05.

Environmental studies identified sites at Griffiss AFB. To date, the installation has signed 26 Records of Decision (RODs). The proposed plan (PP) for Landfill (LF) 1 and five No Further Action/Institutional Control RODs were also completed. RODs have now been issued for all LFs. In FY04, the Air Force conducted an inventory of Military Munitions Response Program (MMRP) sites. The cleanup progress at Griffiss AFB for FY03 through FY06 is detailed below.

In FY03, the installation completed two landfill closures, continued another, and initiated a fourth. Four hardfill areas received closure approval, and an explanation of significant differences was executed, closing the groundwater component of four sites. The installation completed the feasibility study (FS) for the two creeks and approved the associated PPs. The installation reconstructed the landfarming operation, which involved 80,000 cubic yards of contaminated soil. The installation completed remediation of the small arms range (OT

061). Installation of the bioventing systems at Aprons 1 and 2 was completed. The installation removed 11,000 cubic yards of contaminated soil at the Tank Farms 1 and 3 sites. Griffiss AFB completed installation of the Pumphouse 1 (SS 054) free product recovery system and closed 12 petroleum spill sites.

In FY04, Griffiss AFB initiated remediation of the final landfill, completed the LF 2/3 (LF 002) and LF 001 covers, and completed the treatability study for four trichloroethylene (TCE) plumes. The installation executed the RODs for two creeks and awarded the remediation contract. The installation also issued the remedial investigation and FS results for Area of Concern 9 (SS 062). The Air Force conducted an inventory of MMRP sites. MMRP sites were identified at this installation.

In FY05, the installation awarded the long-term monitoring and long-term operation performance-based contract (PBC). The installation completed three RODs and the first 5-year review. In addition, the installation commenced remediation of Three-Mile Creek (SD 031) and submitted PPs for six additional sites. The Air Force began evaluating requirements at MMRP sites at this installation. The RAB continued to meet semiannually and the BCT continued to meet at least quarterly.

In FY06, the installation issued a PBC for the remediation of the TCE plumes and four petroleum-contaminated groundwater sites. Griffiss AFB completed the remediation of LF 6 and Three Mile Creek. The installation completed remediation activities at all MMRP sites.

## FY07 IRP Progress

The Air Force awarded a 3-year PBC for the completion of the Petroleum Landfarming Operation. The installation completed screening sampling on identified soil vapor intrusion (SVI) sites. The Small Arms Range ROD was completed, and regulator concurrence on the PPs for three of the four chlorinated plume sites was received. The cost of completing environmental restoration has changed significantly due to regulatory issues and changes in estimating criteria.

Regulatory issues delayed six PPs and RODs. Regulatory issues also delayed acceptance of SVI sites resolution.

## FY07 MMRP Progress

Griffiss AFB obtained closure for 12 MMRP sites.

## Plan of Action

Plan of action items for Griffiss Air Force Base are grouped below according to program category.

### IRP

- Resolve SVI concerns in FY08.
- Issue RODs for three chlorinated plume sites in FY08.
- Commence processing six PPs in FY08.
- Commence installation of remedies for three chlorinated plume sites in FY09.

### MMRP

There are no MMRP actions scheduled for FY08 or FY09.

<b>FFID:</b>	IN557212447200	<b>Media Affected:</b>	Groundwater and Soil
<b>Size:</b>	2,722 acres	<b>Funding to Date:</b>	\$ 21.2 million
<b>Mission:</b>	Supports tanker aircraft operations of the 434th Air Refueling Wing; formerly supported bomber aircraft operations	<b>Est. CTC (Comp Year):</b>	\$ 21.1 million (FY 2037)
<b>HRS Score:</b>	N/A	<b>IRP Sites (Final RIP/RC):</b>	40 (FY2012)
<b>IAG Status:</b>	None	<b>MMRP Sites (Final RIP/RC):</b>	5 (FY2002)
<b>Contaminants:</b>	Household and industrial waste, radioactive contamination, spent solvents, metals, fuels, SVOCs, lead, waste oils, asbestos, VOCs, explosives, propellants	<b>Five-Year Review Status:</b>	Completed



Peru, Indiana

**Progress To Date**

Grissom Air Force Base (AFB) was established as Bunker Hill Naval Air Station in 1942 and became an Air Force installation in 1954. In July 1991, the BRAC Commission recommended realignment of the installation. Following realignment in September 1994, 1,400 acres were retained by the Air Force as Grissom Air Reserve Base. The remaining 1,322 acres have been transferred primarily to the local redevelopment authority, the State of Indiana, and several private entities. BRAC funds the environmental restoration of the excess property. BRAC sites include a small arms firing range, a munitions burn/burial area, a grenade training range, a firing-in butt, oil-water separators, underground storage tanks (USTs), a buried B-58 aircraft, fire training areas, landfills, and various maintenance shops and spill sites. In FY94, the installation completed a basewide Environmental Baseline Survey (EBS); subsequently, supplemental EBSs (SEBSs) were developed for specific parcels. Also in FY94, the installation formed a BRAC cleanup team (BCT) and prepared a BRAC cleanup plan (BCP), which is updated via the BCP Annex each year. In FY95, the installation formed a Restoration Advisory Board (RAB). The Air Force completed the first 5-year review in FY06.

Installation Restoration Program (IRP) and Military Munitions Response Program (MMRP) sites have been identified at Grissom AFB. Records of Decision (RODs) have been signed for Fire Protection Training Areas (FPTAs) 1 and 2 (FTs 001 and 002), the polychlorinated biphenyls (PCBs) site (SS 037), Landfills 003 and 004, an abandoned UST site (ST 009), and Building 190 (SS 190). Areas of concern (AOCs) have also been addressed and resolved. The Air Force has transferred all Grissom AFB property. In FY04, the Air Force conducted an inventory of MMRP sites. The cleanup progress at Grissom AFB for FY03 through FY06 is detailed below.

In FY03, a supplemental remedial action (RA) for the BX Gas Station and supplemental investigation at Building 747 (AOC 7) were initiated. The Air Force awarded a performance-based contract (PBC) for the investigation and cleanup of the central heat plant (CHP). The draft institutional control (IC) management plan was completed. EPA concurred with the Air Force demonstration that the remedy at FPTAs 1 and 2 was operating properly and successfully. The BCT concurred with a groundwater monitoring plan for FPTAs 1 and 2, thus

streamlining the groundwater monitoring at these sites. Mitigation measures were satisfied for two locations eligible for the National Register of Historic Places, which allows for the transfer and redevelopment of these areas. Remedy in place environmental RODs were completed for two IRP sites and six AOCs.

In FY04, the investigation of the CHP and a supplemental investigation of the closed-in-place USTs at Building 747 were completed. The Air Force completed a supplemental RA at Building 407 (AOC 4) and the first round of post supplemental RA groundwater samples were non-detect for the contaminant of concern. An investigation at Building 190 resulted in the discovery of previously undocumented groundwater contamination south of the building. The Air Force conducted an inventory of MMRP sites. MMRP sites were identified on the BRAC portion of the installation.

In FY05, the Air Force completed the demonstration that natural attenuation had remediated the petroleum groundwater contamination at the flightline gas station and at Building 14. The corrective action plan for Buildings 14, 407, and 424 was satisfied. The Air Force completed RA fieldwork for Building 747 and the groundwater remedial investigation for Building 190 (SS 190). The FPTAs groundwater monitoring plan was optimized to reduce long-term groundwater monitoring costs to the Air Force. The Air Force transferred 94 acres to the Grissom Redevelopment Authority and began evaluating requirements at identified MMRP sites.

In FY06, the Air Force closed former leaking UST sites with no further action and decommissioned monitoring wells at Buildings 14, 407, 424, and 747. The Air Force completed the feasibility study (FS) for Building 190 and submitted a draft ROD to regulators. The first 5-year review and the CHP RA work plan were completed. The RAB met semiannually. The installation continued to evaluate requirements at MMRP sites.

**FY07 IRP Progress**

Grissom AFB completed the ROD for Building 190 (SS 190) and continued groundwater monitoring. The Air Force also developed the SEBS, finding of suitability to transfer, and deed for Parcels C1, D1, and the CHP parcel. The cost of completing

environmental restoration has changed significantly due to changes in estimating criteria.

The property boundary between the CHP Parcel and the Air Force Reserve cantonment was relocated, which meant the portion of the CHP site previously requiring an FS and ROD was no longer on BRAC property. Therefore, the Air Force did not execute the FS, proposed plan, and ROD for the CHP (SS 049).

**FY07 MMRP Progress**

No MMRP actions were conducted at this installation.

**Plan of Action**

Plan of action items for Grissom Air Force Base are grouped below according to program category.

**IRP**

- Develop groundwater monitoring plan for Site SS 190 in FY08.
- Prepare documentation to participate in the regional PBC in FY08.
- Update land use controls/IC management plan in FY08.
- Finalize CHP remediation completion report in FY08.

**MMRP**

There are no MMRP actions scheduled for FY08 or FY09.

<b>FFID:</b>	GU917002753200, GU917002758300, GU917002758500, and GU917002757600	<b>Contaminants:</b>	PCBs, POLs, solvents, pesticides, heavy metals, VOCs, SVOCs
<b>Size:</b>	15,306 acres	<b>Media Affected:</b>	Groundwater, Surface Water, Sediment, Soil
<b>Mission:</b>	Maintained and operated facilities; provided services and materials; stored and issued weapons and ordnance in support of the operating forces of the Navy and shore activities; provided services for Guam Naval Activities	<b>Funding to Date:</b>	\$ 139.9 million
<b>HRS Score:</b>	N/A	<b>Est. CTC (Comp Year):</b>	\$ 46.2 million (FY 2020)
<b>IAG Status:</b>	IAG signed in FY93	<b>IRP Sites (Final RIP/RC):</b>	59 (FY2014)
		<b>MMRP Sites (Final RIP/RC):</b>	1 (FY2009)
		<b>Five-Year Review Status:</b>	Planned



Apra Harbor, Guam

**Progress To Date**

Guam Apra Harbor Complex consists of Navy commands in the Apra Harbor area and the former Naval Magazine area southeast of the harbor. The BRAC Commission recommended four of the commands (Guam Naval Activities [NAVACTS], Naval Fleet and Industrial Supply Center, Naval Ship Repair Facility [NSRF], and Public Works Center [PWC]) for realignment or closure in 1995. NSRF ceased operations in September 1997. Operations that contributed to contamination were support, photographic and printing shops, a dry cleaning plant, power plants and boilers, pest control operations, and chemical and medical laboratories. Wastes were stored and disposed of in landfills and wastewater treatment plants. The complex completed a joint community relations plan in FY92. The installation signed an interagency agreement (IAG) in FY93. A local information repository was established in FY94. The complex converted its technical review committee to a Restoration Advisory Board in FY95.

To date, the installation has achieved response complete at 44 sites. The Navy transferred 2,725 acres to the Government of Guam in FY00 and decided to retain NSRF. In FY03, the Navy completed an inventory of all Military Munitions Response Program (MMRP) sites. To date, the installation has signed No Further Action (NFA) Decision Documents (DDs) for five sites. The cleanup progress at Guam Apra Harbor Complex for FY03 through FY06 is detailed below.

In FY03, the installation completed the site closeouts for NAVACTS solid waste management unit (SMWU) 49 and PWC Area of Concern (AOC) 1, and signed NFA DDs for NAVACTS SWMU 49 and PWC AOC 1. The Navy completed an inventory of all MMRP sites and identified no MMRP sites at this installation.

In FY04, the installation completed a NFA DD for NAVACTS AOC 2, and held a proposed plan (PP) public meeting for AOCs 1 and 3. The installation also negotiated restricted land use for Site 28 with regulators.

In FY05, Guam Apra Harbor Complex completed NFA DDs for NAVACTS Site 28. A public meeting and two BRAC cleanup team (BCT) meetings were held. The BCT performed review of the PP and both EPA and Guam EPA (GEPA) attended the

Navy public meeting providing cooperative regulator support. The Navy worked closely with EPA and GEPA to resolve land use control (LUC)/institutional control language for the DD.

In FY06, Guam Apra Harbor Complex continued to resolve LUC language issues concerning transferred parcels.

**FY07 IRP Progress**

Guam Apra Harbor Complex reached resolution on LUC language issues concerning transferred parcels. The cost of completing environmental restoration has changed significantly due to technical issues and changes in estimating criteria.

The completion of the DD and LUC work plan (LUCWP) for NAVACTS Site 28 was delayed due to ongoing resolution of the LUC language.

**FY07 MMRP Progress**

The Navy has identified no MMRP sites at this installation.

**Plan of Action**

Plan of action items for Guam Apra Harbor Complex are grouped below according to program category.

**IRP**

- Complete DD and LUCWP for NAVACTS Site 28 (Old WESTPAC Area) in FY08.

**MMRP**

There are no MMRP actions scheduled for FY08 or FY09.

<b>FFID:</b>	CA921402303800	<b>Funding to Date:</b>	\$ 36.9 million
<b>Size:</b>	669 acres	<b>Est. CTC (Comp Year):</b>	\$ 0.5 million (FY 2006)
<b>Mission:</b>	Conducted Reserve training	<b>IRP Sites (Final RIP/RC):</b>	21 (FY2006)
<b>HRS Score:</b>	N/A	<b>MMRP Sites (Final RIP/RC):</b>	1 (FY2003)
<b>IAG Status:</b>	None	<b>Five-Year Review Status:</b>	Planned
<b>Contaminants:</b>	Metals, VOCs, SVOCs, fuel hydrocarbons, PCBs, PAHs, POLs, pesticides		
<b>Media Affected:</b>	Groundwater, Surface Water, Sediment, Soil		



Novato, California

## Progress To Date

In December 1988, the BRAC Commission recommended closure of Hamilton Army Airfield, as well as relocation of the airfield's mission. The installation has eight areas of concern: a former petroleum/oil/lubricant (POL) hill area, a hospital complex, five out parcels (A2, A3, A4, A5, and A6), and the main airfield parcel. Investigations at the main airfield parcel addressed tidal wetlands, a perimeter drainage ditch, underground storage tanks, burn pits, aboveground storage tanks, onshore and offshore fuel lines, a former sewage treatment plant, a pump station, an aircraft maintenance and storage facility, the east levee construction debris disposal site, a POL area, and a revetment area. The main contaminants of concern are metals, polyaromatic hydrocarbons (PAHs), volatile organic compounds (VOCs), semivolatile organic compounds (SVOCs), pesticides, and polychlorinated biphenyls (PCBs). In FY94, the installation formed a BRAC cleanup team and a Restoration Advisory Board (RAB).

In FY96, the Army transferred Out Parcels A2, A3, A5, and A6 to the City of Novato. In FY03, the Army completed an inventory of Military Munitions Response Program (MMRP) sites. In FY03, the Army transferred the hospital parcel to the City of Novato; Out Parcel A4 to a developer; and the Main Airfield Parcel to the State of California. In FY04, the Army transferred POL Hill and the levee parcels to the City of Novato, thereby completing all property transfers for this installation. The Army completed two Records of Decision (RODs) in FY03. The cleanup progress at Hamilton Army Airfield for FY03 through FY06 is detailed below.

In FY03, the installation completed a combined ROD for the inboard and coastal salt marsh sites. The Army completed a feasibility study for the coastal salt marsh sites. The Army completed a finding of suitability for early transfer (FOSET) for 630 acres and transferred those acres. Hospital Hill parcel was transferred to the City of Novato and Parcel A4 to a developer. The installation completed the closure report, a corrective action plan, and a finding of suitability to transfer (FOST) for POL Hill. The Army completed the closed, transferred, and transferring range and site inventory and identified one low risk MMRP site that required no action. The RAB reviewed the

ROD/remedial action (RA) plan and FOSET for the Main Airfield Parcel and the POL Hill FOST.

In FY04, the installation completed the FOST for the levee parcel. The Army transferred the POL Hill and levee parcels.

In FY05, Hamilton Army Airfield completed the remedial design (RD) and RA for the coastal salt marsh sites. The installation completed the remaining RD/RAs for inboard sites, except the target range. The Army conducted sampling that indicated that the skeet range was complete and did not require an RA.

In FY06, Hamilton Army Airfield completed the last RD/RA for the removal of soils from the target range. The installation removed monitoring wells from POL Hill. All actions have been completed with the exception of long-term management. The Army performed yearly biological monitoring in the coastal salt marsh. The installation also completed close-out documentation for sites POL Hill, East Fort Baker, and the Revetments.

## FY07 IRP Progress

Hamilton Army Airfield completed biological monitoring and a report on the revegetation of the endangered species habitat at the coastal salt marsh sites. The cost of completing environmental restoration has changed significantly due to changes in estimating criteria.

Administrative issues delayed the BRAC office closure and the completion of closeout reports for the coastal salt marsh, DDT sites, and testing range.

## FY07 MMRP Progress

The Army conducted no MMRP actions at this installation.

## Plan of Action

Plan of action items for Hamilton Army Airfield are grouped below according to program category.

### IRP

- Complete documentation and close BRAC office in FY08.
- Complete closeout reports for the coastal salt marsh, DDT sites, revetments, and testing range in FY08.

### MMRP

There are no MMRP actions scheduled for FY08 or FY09.

<b>FFID:</b>	MA157172442400	<b>Funding to Date:</b>	\$ 37.3 million
<b>Size:</b>	826 acres	<b>Est. CTC (Comp Year):</b>	\$ 10.0 million (FY 2020)
<b>Mission:</b>	Support Headquarters Electronic Systems Center	<b>IRP Sites (Final RIP/RC):</b>	22 (FY2003)
<b>HRS Score:</b>	50.00; placed on NPL in May 1994	<b>MMRP Sites (Final RIP/RC):</b>	None
<b>IAG Status:</b>	FFA under negotiation	<b>Five-Year Review Status:</b>	Completed and planned
<b>Contaminants:</b>	VOCs, chlorinated solvents, gasoline, jet fuel, tetraethyl lead, PCBs, mercury		
<b>Media Affected:</b>	Groundwater, Surface Water, Sediment, Soil		



Bedford, Massachusetts

**Progress To Date**

Hanscom Air Force Base (AFB) supports the Air Force Electronic Systems Center. In 2005, the BRAC Commission recommended Hanscom AFB for realignment. EPA placed Hanscom Field/Hanscom AFB on the NPL in May 1994. The NPL site designation includes Hanscom AFB and former portions of the installation leased from the State of Massachusetts between 1942 and 1974. The leased property included the flightline and airfield areas of the installation that are now L.G. Hanscom Field, a civilian airport. Operations at Hanscom AFB have involved generation, use, and disposal of numerous hazardous substances. Possible sources of contamination investigated include a former industrial wastewater treatment system, a former filter bed/landfill area, a jet fuel residue and tank sludge area, two landfills, three former fire training areas, a paint waste disposal area, a mercury spill area, former aviation fuel handling and storage facilities, underground storage tanks, and fuel spill areas. In FY95, the installation converted its technical review committee to a Restoration Advisory Board. The first 5-year review was completed for the Operable Unit (OU) 2 remedy in FY97. The second 5-year review was completed for the Hanscom Field/Hanscom AFB site in FY02. In FY02, a 5-year review was also completed for two Massachusetts contingency plan sites. In FY07, the third 5-year review for the Hanscom Field/Hanscom AFB NPL site was completed. A 5-year review was also completed in FY07 for the two Massachusetts contingency plan sites.

To date, 14 sites have been closed out and remedies are in place at the eight remaining sites. Records of Decision (RODs) have been signed for OU 1 and OU 3/Installation Restoration Program (IRP) Sites 6 and 21. The cleanup progress at Hanscom AFB for FY03 through FY06 is detailed below.

In FY03, the installation completed the design and construction of the final remedy for OU 3/IRP Site 21 and began remedial action-operations (RA-O). The remedy incorporated a previous removal action. It is also the final remedy required for the installation. RA-O continued at OUs 1, 2, 3/IRP Site 6, the Army and Air Force Exchange Service (AAFES) service station, and base motor pool sites.

In FY04, the installation continued RA-O at OUs 1, 2, 3/IRP Site 6, OU 3/IRP Site 21, the AAFES service station, and base motor pool sites.

In FY05, the installation continued RA-O at OUs 1, 2, 3/IRP Site 6, OU 3/IRP Site 21, the AAFES service station, and base motor pool sites. The Air Force updated its Military Munitions Response program (MMRP) inventory. No MMRP sites were identified at this installation during the inventory development.

In FY06, Hanscom AFB continued RA-O at OU 1, 2, 3/IRP Site 6, OU 3/IRP Site 21, the AAFES service station, and base motor pool sites.

**FY07 IRP Progress**

The installation continued RA-O at OUs 1, 2, 3/IRP Site 6, 3/IRP Site 21, AAFES service station, and base motor pool sites. An interim ROD for OU 1 was converted to a final ROD. This is the last ROD required for the Hanscom Field/Hanscom AFB NPL site. The third 5-year review for the Hanscom Field/Hanscom AFB NPL site was completed. This review concluded that the in-place remedies were protective of human health and the environment. A 5-year review was also completed for two Massachusetts contingency plan sites, which recommended continued monitoring.

**FY07 MMRP Progress**

The Air Force initiated a preliminary assessment (PA) at this installation.

**Plan of Action**

Plan of action items for Hanscom Air Force Base are grouped below according to program category.

**IRP**

- Continue RA-O at OUs 1, 2, 3/IRP Site 6, 3/IRP Site 21, AAFES service station, and base motor pool sites in FY08.

**MMRP**

- Complete PA in FY08.

<b>FFID:</b>	NE79799F041100	<b>Funding to Date:</b>	\$ 76.4 million
<b>Size:</b>	48,753 acres	<b>Est. CTC (Comp Year):</b>	\$ 28.3 million (FY 2012)
<b>Mission:</b>	Produce, load, and store ammunition	<b>IRP Sites (Final RIP/RC):</b>	8 (FY2012)
<b>HRS Score:</b>	42.24; placed on NPL in June 1986	<b>MMRP Sites (Final RIP/RC):</b>	1 (FY2002)
<b>IAG Status:</b>	IAG signed in 1998	<b>Five-Year Review Status:</b>	Planned
<b>Contaminants:</b>	UXO, VOCs, PAHs, heavy metals, SVOCs, explosives, propellants		
<b>Media Affected:</b>	Soil and Groundwater		



Hastings, Nebraska

## Progress To Date

Operations at the Blaine Naval Ammunition Depot (NAD) subsite contributed to groundwater and soil contamination at the Hastings Groundwater Contamination Site. The U.S. Army Corps of Engineers (USACE) designated five operable units (OUs) at the property: three OUs for the 2,900-acre Hastings East Industrial Park area, which includes soil (OU 4), the vadose zone (OU 8), and groundwater (OU 14); an OU for the naval yard dump, the explosives disposal area, and the bomb and mine complex (OU 16); and an OU for a 44,500-acre area of the former NAD not included in the other OUs (OU 15). EPA placed the property on the NPL in June 1986, and the Army and EPA signed an interagency agreement (IAG) in 1998. USACE formed a Restoration Advisory Board at this property in FY99. USACE completed a 5-year-review in FY02.

To date, EPA has signed two Records of Decision (RODs), one for removal of explosives and metal-contaminated surface soil, and a second for removal of carcinogenic polyaromatic hydrocarbons (cPAH)-contaminated surface soil. The Army approved a Military Munitions Response Program (MMRP) project in FY96. The cleanup progress for the Hastings Groundwater Contamination Site for FY03 through FY06 is detailed below.

In FY03, USACE completed the cPAH remedial action (RA) for the residential properties and installed water supply wells for residents with contaminated groundwater. USACE completed investigations to support the design of the OU 14 groundwater remediation system and initiated groundwater modeling based on the investigation results. A feasibility study (FS) to document completed removal actions for the OU 16 sites was initiated. USACE initiated discussions with the regulators concerning cPAH cleanup levels for the non-residential properties.

In FY04, USACE completed the explanation of significant differences, which modified the cPAH ROD to include remediation of the non-residential properties. They completed the remedial design for the cPAH-contaminated soils at the non-residential properties and initiated the RA. USACE completed the groundwater FS and continued groundwater modeling optimization. USACE supported the Department of Justice (DOJ) with litigation against a potentially responsible party (PRP). Operation of the soil vapor extraction system at

Area 10 (OU 15) continued. USACE completed the munitions and explosives of concern recurring review report and site visit.

In FY05, USACE completed remediation of cPAH-contaminated soils at the non-residential properties. Also, USACE completed the installation of wells for aquifer pumping tests. Test data will be used to enhance modeling efforts and facilitate design of groundwater extraction systems. USACE continued technical and legal support to DOJ in the ongoing litigation and made progress towards settlement with a PRP. The property completed the munitions and explosives of concern recurring review report and submitted it for regulatory review.

In FY06, USACE conducted additional groundwater modeling and continued coordination with the groundwater remediation stakeholders. Details regarding the proposed beneficial reuse of contaminated water from the future groundwater remedy by the Hastings power plant were defined. State regulators provided discharge limits for the remedy surface water disposal. USACE initiated development of the groundwater FS addendum and proposed plan (PP). USACE also conducted pre-design efforts for the groundwater RA, including completion of aquifer testing and preliminary pipeline design. USACE supported DOJ in settlement efforts. Regulators approved the munitions and explosives of concern recurring review report.

## FY07 IRP Progress

USACE completed the removal action to address the lead contamination identified OU 16 and submitted the final FS to regulators. USACE continued to evaluate groundwater remediation options and support pre-design assessments. USACE initiated the second 5-year review for the site and submitted the draft report for regulatory review. USACE completed preliminary RA design efforts. The cost of completing environmental restoration has changed significantly due to technical and regulatory issues and changes in estimating criteria.

USACE submitted the groundwater FS addendum for regulatory review; however, regulatory issues delayed completion of the FS addendum and the groundwater PP. USACE assisted DOJ to finalize PRP settlement discussions, but regulatory issues delayed approval of the PRP settlement.

Regulatory issues also delayed completion of the OU 15 final baseline risk assessment.

## FY07 MMRP Progress

USACE evaluated recommendations included in the munitions and explosives of concern recurring review report.

Technical issues delayed MMRP actions at the site.

## Plan of Action

Plan of action items for Hastings Groundwater Contamination Site are grouped below according to program category.

### IRP

- Finalize the groundwater FS addendum and PP, and conduct the PP public meeting in FY08.
- Acquire Army and regulatory approval of the Groundwater Remediation ROD in FY08.
- Award the design/construction contract for the groundwater remediation in FY08.
- Finalize the OU 16 focused FS in FY08.
- Respond to regulatory concerns for the OU 15 baseline risk assessment and submit the final risk assessment for review in FY08.
- Obtain final DOJ approval for the PRP settlement in FY08.

### MMRP

- Continue to evaluate recommendations from the recurring review report in FY08.
- Conduct MMRP actions in FY08.

<b>FFID:</b>	UT857172435000	<b>Funding to Date:</b>	\$ 265.9 million
<b>Size:</b>	6,698 acres	<b>Est. CTC (Comp Year):</b>	\$ 303.6 million (FY 2027)
<b>Mission:</b>	Provide logistics support for weapons systems	<b>IRP Sites (Final RIP/RC):</b>	212 (FY2011)
<b>HRS Score:</b>	49.94; placed on NPL in July 1987	<b>MMRP Sites (Final RIP/RC):</b>	13 (FY2016)
<b>IAG Status:</b>	FFA signed in April 1991	<b>Five-Year Review Status:</b>	Completed and underway
<b>Contaminants:</b>	Solvents (TCE, PCE, TCA, 1,2 DCA, DCE), metals, petroleum products, polychlorinated biphenyls, VOCs, SVOCs		
<b>Media Affected:</b>	Groundwater, Surface Water, Sediment, Soil		



Ogden, Utah

## Progress To Date

The mission of Hill Air Force Base (AFB) is to provide logistics support for weapons systems, host two fighter wings, and operate the Utah Test and Training Range (UTTR). EPA placed the installation on the NPL in July 1987 and the Air Force signed a federal facility agreement in April 1991. In 2005, the BRAC Commission recommended Hill AFB for realignment. Site types at Hill AFB include disposal pits, landfills, surface impoundments, underground storage tanks, fire training areas, firing ranges, discharge and wastewater ponds, a contaminated building, a munitions dump, and spill sites. Contaminants include solvents (primarily trichloroethylene [TCE]), fuels, acids, bases, and plating solutions. The installation formed a Restoration Advisory Board (RAB) in FY95. The installation conducted 5-year reviews in FY98 and FY03.

To date, the installation has signed Records of Decision (RODs) for eight operable units (OUs). The cleanup progress at Hill AFB for FY03 through FY06 is detailed below.

In FY03, the installation conducted a 5-year review and installed remedial systems at two sites. In addition, one site was closed and a feasibility study (FS) was completed for OU 8. Partnering with regulatory agencies and fostering RAB involvement continued. Four RAB meetings and four RAB training sessions were held. Regulatory and RAB participation occurred in numerous community meetings.

In FY04, Hill AFB completed a remedial investigation and an FS at the two sites composing OU 5 and an engineering evaluation/cost analysis and removal action at two sites in OU 9. The installation also completed response actions at 32 areas of concern (AOCs) and closed 7 AOCs. The Air Force continued to make significant progress towards an innovative cleanup agreement for the UTTR. The installation also developed geospatial-based land use controls, a lease tracking database, and geographic information system tools to facilitate data analysis. The installation continued partnering with regulatory agencies and the RAB. Hill AFB hosted quarterly RAB meetings, two RAB work group meetings, and five RAB training tours and site visits. Five public information sessions and eight presentations to city councils from communities around the base were conducted.

In FY05, Hill AFB achieved four remedies in place (RIP) and three response completes (RCs), completed the study phase for four sites, closed out one site, and reduced the risk at OU 9. Other notable activities included signing a ROD for OU 8, installing a groundwater extraction well system to prevent further spread of the plume at OU 8, implementing a bio-polishing technology test at OU 2, and constructing an in situ treatment system at OU 12. The RAB held four quarterly meetings, three working group meetings, and five training sessions. The installation held four public meetings and made 11 presentations to city councils and planning boards representing cities adjacent to the base. The Air Force began the preliminary assessments (PAs) for all Military Munition Response Program (MMRP) sites.

In FY06, Hill AFB achieved RIP at two sites and RC at 27 AOCs at the UTTR. The Air Force signed the ROD for OU 5. The installation implemented a performance-monitoring program to evaluate and manage remedial system operations to ensure their effectiveness in meeting remedial cleanup objectives. The Air Force completed the proposed plan (PP) for OU 9 and continued progress on the PP for OU 12. Hill AFB successfully recycled 400 tons of iron BDU practice bombs into material suitable for use in a permeable reactive barrier to treat TCE-contaminated groundwater at the installation. Hill AFB initiated site inspection (SI) activities at its MMRP sites. The Air Force signed an interagency agreement (IAG) in September for the UTTR and Little Mountain Test Annex. The RAB held four quarterly meetings, two working group meetings, and six training sessions. The installation participated in six city council meetings, held five public meetings, and held meetings with five local city mayors to discuss cleanup activities affecting surrounding communities.

## FY07 IRP Progress

Hill AFB achieved RIP at one site and RC at two AOCs at the UTTR. The installation discovered polychlorinated biphenyl contamination in soils in an on-site military housing area and initiated a removal action. The Air Force submitted RODs for OUs 9 and 12 to the regulatory agencies for review. The Air Force initiated the third 5-year review. The cost of completing environmental restoration has changed significantly due to changes in estimating criteria.

Technical issues delayed the ROD for OU 9. Regulatory issues delayed the ROD for OU 12. The RAB conducted four quarterly meetings, two working group meetings, and one RAB training session. The installation held five public meetings and briefed six city councils.

## FY07 MMRP Progress

The installation completed PA work for all previously identified MMRP sites and eight sites (formerly FUDS) that were added to the inventory.

## Plan of Action

Plan of action items for Hill Air Force Base are grouped below according to program category.

### IRP

- Complete ROD and remedial action construction at OU 12 (expansion of base boundary hydraulic control system) in FY08.
- Complete third 5-year review in FY08.
- Complete remedial action at OU 1 (contaminated sediment removal at spring locations) in FY08-FY09.

### MMRP

- Initiate SI work for all MMRP sites in FY08.

<b>FFID:</b>	FL457212403700	<b>Funding to Date:</b>	\$ 32.3 million
<b>Size:</b>	2,938 acres	<b>Est. CTC (Comp Year):</b>	\$ 20.4 million (FY 2037)
<b>Mission:</b>	Homestead Air Reserve Base (ARB) houses the 482d Reserve Fighter Wing and is host to several other government agencies.	<b>IRP Sites (Final RIP/RC):</b>	35 (FY2006)
<b>HRS Score:</b>	42.24; placed on NPL in August 1990	<b>MMRP Sites (Final RIP/RC):</b>	2 (FY2016)
<b>IAG Status:</b>	FFA signed in February 1991	<b>Five-Year Review Status:</b>	Completed and planned
<b>Contaminants:</b>	Pesticides, solvents, VOCs, PCBs, heavy metals, jet fuel, PAHs, cyanide		
<b>Media Affected:</b>	Groundwater, Sediment, Soil		



Homestead, Florida

**Progress To Date**

Homestead Air Force Base (AFB) was established as an Army Air Force airfield in 1942 and became an Air Force installation in 1955. In July 1993, the BRAC Commission recommended realignment of the installation. Following realignment in March 1994, 1,952 acres were retained by the Air Force as Homestead Air Reserve Base (ARB), and 10 acres were retained by the Army. The remaining 976 acres have been transferred primarily to the local redevelopment authority and other federal agencies. The 2005 BRAC Commission recommended the installation for further realignment. EPA placed the installation on the NPL in August 1990, and the Air Force signed a federal facility agreement (FFA) in February 1991. Sites identified at the installation include the JP-4 jet fuel leak area, a landfill, fire protection training areas, various spill sites, underground storage tanks (USTs), aboveground storage tanks, and oil-water separators. Interim actions have included removal of USTs and contaminated soil, groundwater extraction and treatment, and removal of oil-water separators. The Homestead AFB environmental restoration program is funded under the Environmental Restoration Account for sites on the ARB property and under the BRAC Account for sites on the BRAC property. The installation formed a Restoration Advisory Board (RAB) in FY94, which was chartered in FY96. The installation also formed a BRAC cleanup team (BCT). The Air Force Real Property Agency (AFRPA) completed a 5-year review for sites on the BRAC property in FY03, and the Air Force Reserve Command (AFRC) completed a 5-year review in FY05 for sites on the ARB property.

In FY94, a base-wide Environmental Baseline Survey identified potentially contaminated sites. By FY95, 400 sites had been closed and the remaining sites were consolidated into 5 major fuel areas and 30 operable units (OUs). Records of Decision (RODs) have been signed for OUs 2, 11, 12, 15, 18, 20, 21, and 25 through 31. In FY04, the Air Force conducted an inventory of Military Munitions Response Program (MMRP) sites. The cleanup progress at Homestead AFB for FY03 through FY06 is detailed below.

In FY03, AFRPA completed a 5-year review of sites on the BRAC property and obtained regulatory concurrence. The Air Force and EPA signed the ROD for the canal portion of OU 11, which received concurrence from the State. The installation initiated the remedial action for OU 11.

In FY04, the installation completed the canal remediation at OU 11. The sampling schedule for the long-term management (LTM) sites was negotiated, and OU 22 was moved from the CERCLA program to the State petroleum program. LTM of two BRAC sites (OU 11 [aquatic portion] and OU 18) was transferred to AFRC. The Air Force conducted an inventory of MMRP sites. MMRP sites were identified on the AFRC property, but no sites were identified on the BRAC property.

In FY05, the AFRC completed a 5-year review of sites on the ARB property and obtained formal regulatory acceptance. AFRPA obtained EPA approval of an operating properly and successfully demonstration for OU 26. The Air Force updated the solid waste management unit inventory to reflect current ownership for renewal of the RCRA Hazardous and Solid Waste Amendments (HSWA) permit. The BCT and RAB continued to meet semiannually.

In FY06, the RCRA HSWA permit renewal with the State was finalized. Final RODs were completed and signed for four AFRC Installation Restoration Program (IRP) sites (OUs 12, 15, 25, and 27) and four BRAC IRP sites (OUs 20, 21, 30, and 31). The ROD for the terrestrial portion of OU 11 was also signed, which designated responsibilities outlined therein to the AFRC. AFRPA transferred the remaining 24 acres to Miami-Dade County. The AFRC completed an MMRP pilot comprehensive site evaluation (CSE) of a former practice grenade range (GR 047). The BCT and RAB continued to meet semiannually.

**FY07 IRP Progress**

Homestead AFB continued remedial action-operations (RA-O) and LTM at AFRC and BRAC sites as required by individual RODs, including groundwater monitoring and land use control/institutional control inspections. AFRPA transferred LTM of the terrestrial portion of OU 11 to AFRC. The cost of completing environmental restoration at AFRC sites has changed significantly due to changes in estimating criteria.

**FY07 MMRP Progress**

AFRC completed fieldwork for a follow-up expanded site inspection (SI) to the initial CSE work on the former grenade range. A limited site assessment and lead-contaminated soil removal was also completed at the former small arms firing range.

**Plan of Action**

Plan of action items for Homestead Air Force Base are grouped below according to program category.

**IRP**

- Continue RA-O and LTM at AFRC and BRAC sites in FY08 and FY09.

**MMRP**

- Finalize the expanded SI report for the former grenade range in FY08.

<b>FFID:</b>	CA917002278400	<b>Est. CTC (Comp Year):</b>	\$ 677.2 million (FY 2007)
<b>Size:</b>	934 acres	<b>IRP Sites (Final RIP/RC):</b>	70 (FY2016)
<b>Mission:</b>	Repaired and maintained ships	<b>MMRP Sites (Final RIP/RC):</b>	None
<b>HRS Score:</b>	48.77; placed on NPL in November 1989	<b>Five-Year Review Status:</b>	Planned
<b>IAG Status:</b>	FFA signed in September 1990 and revised in January 1992		
<b>Contaminants:</b>	Heavy metals, PCBs, petroleum hydrocarbons, VOCs, SVOCs		
<b>Media Affected:</b>	Groundwater, Surface Water, Sediment, Soil		
<b>Funding to Date:</b>	\$ 449.7 million		



San Francisco, California

**Progress To Date**

In July 1991, the BRAC Commission recommended closure of Hunter's Point Annex-Treasure Island Naval Station. The station ceased operations on April 1, 1994, and is now in caretaker status and is the responsibility of the Naval Facilities Engineering Command's Southwest Division. Parts of the installation have been leased to private parties. Site types include landfills and land disposal areas, containing primarily heavy metals and volatile organic compounds (VOCs), and radioactive materials, primarily cesium and radium. EPA placed the installation on the NPL in November 1989 and signed a federal facility agreement (FFA) with the Navy in September 1990, which was revised in January 1992. A BRAC cleanup team (BCT) was formed in FY94. The installation's technical review committee was converted to a Restoration Advisory Board. The installation's FY89 community relations plan was revised in FY97 and in FY04. The BCT updates the site management plan quarterly.

The installation completed a Record of Decision (ROD) for no further action at Parcel A and conveyed the parcel to the San Francisco Redevelopment Agency (SFRA). The Navy completed an inventory of all Military Munitions Responser Program (MMRP) sites in FY02. The cleanup progress at Hunter's Point Annex-Treasure Island Naval Station for FY03 through FY06 is detailed below.

In FY03, the installation completed the Parcel A draft final finding of suitability to transfer (FOST). The installation also completed the Parcel B Risk Management Review. The Navy successfully completed innovative groundwater cleanup technology under treatability studies (TSs) for the plumes and data gap sampling for Parcels C and E.

In FY04, the installation finalized the FOST for Parcel A. The BCT reached consensus to amend the existing ROD with a Technology Memo in Support of a ROD Amendment (TMSRA) at Parcel B. The installation achieved significant VOC contaminant reduction through zero-valent iron (ZVI) in situ treatments under a TS in Parcel C. The Navy completed a removal action in Parcel D, through which contaminated soil was removed and soil stockpiles were sampled and removed. Parcel E was divided, with a Parcel E2 created as a new operable unit comprising the industrial landfill and adjacent

areas. The installation began work on a remedial investigation/feasibility study (RI/FS) for Parcel E2. Two data gaps investigations were performed and summarized in a validation study report for the remainder of Parcel E. The Navy identified a major source of polychlorinated biphenyls (PCBs) contamination. In addition, the basewide Historical Radiological Assessment (HRA) was finalized, identifying 91 rad-impacted areas.

In FY05, the installation conveyed Parcel A to the SFRA. The installation finalized the risk assessment methodologies with the regulatory agencies and the SFRA, which enabled the TMSRA and FS to proceed. The Navy treated additional sites on Parcels B and C with ZVI or through bioremediation. The installation began removal actions along the bay shoreline in Parcels E and E2 to remove radioactive contaminants and PCBs. In addition, the installation completed TMSRA on Parcel B and issued a new proposed plan (PP) to support a ROD amendment. The installation completed FSs on Parcels C, D, and F, and an RI/FS on Parcel E2. The FSs for Parcels C and D were prepared in accordance with requirements in the conveyance agreement. The installation finalized the validation study for Parcel F and initiated the FS. The installation completed three removal actions on Parcel E. The Navy also conducted radiological surveys identified in the HRA.

In FY06, Hunters Point Annex-Treasure Island Naval Station completed four removal actions on Parcels E and E2. The Navy continued radiological surveys identified in the HRA. The installation completed methane and VOC migration investigations to support the transfer of Parcel B. The installation continued TSs using ZVI and bioremediation. The Navy completed removal actions at the Metal Reef, Metal Slag, and PCB sites. Approximately 15 percent of the radiological waste disposed at Site IR 02 was removed, and the installation determined additional engineering controls are necessary. The Navy revised the basewide radiological action memo and began removal actions at Parcel B.

**FY07 IRP Progress**

Hunter's Point Annex-Treasure Island Naval Station completed a time-critical removal action (TCRA) on Parcel B to investigate and remove radioisotopes in the sanitary sewer and storm drain system (Site IR 50). The installation completed the removal

action at Site IR 02 (Parcel E). The Navy issued FS radiological addenda on Parcels B and D; and FSs on Parcels C, D, E2, and F. The installation issued a draft RI on Parcel E. The Navy resolved outstanding issues with regulators and issued a draft final TMSRA on Parcel B, and determined the unsound wooden piers would not be removed.

Regulatory issues delayed completion of the TMSRA and PP on Parcel B; FS and FS addenda on Parcels C, D, and F; RI/FS on Parcel E2; closeout at Metal Reef, Metal Slag and PCB sites; evaluation of methods to address deeper waste at Site IR 02; continuation of radiological surveys identified in the HRA; completion of radiological removal action at Parcel B; and the ZVI TS at Parcel D.

**FY07 MMRP Progress**

The Navy has identified no MMRP sites at this installation.

**Plan of Action**

Plan of action items for Hunter's Point Annex-Treasure Island Naval Station are grouped below according to program category.

**IRP**

- Finalize TMSRA on Parcel B, and issue a new PP to support a ROD amendment in FY08.
- Finalize FS and FS radiological addenda on Parcels C, D, E2, and F in FY08.
- Obtain radiological free-release clearances at Buildings 813 and 819 in FY08.
- Complete TCRA at Site IR 26 in FY08.
- Complete closeout at Metal Reef, Metal Slag and PCB sites in FY08.
- Continue radiological surveys on high priority structures in Parcels B and D in FY08-FY09.
- Conduct ZVI TS at Parcel D groundwater plumes (Sites 9, 33, and 71) in FY08-FY09.

**MMRP**

There are no MMRP actions scheduled for FY08 or FY09.

<b>FFID:</b>	MD317002410900	<b>Contaminants:</b>	Waste propellants, explosives, acids, paints, solvents, heavy metals, low-level radioactive material, TCE, industrial wastewater, VOCs, SVOCs, propellants
<b>Size:</b>	3,423 acres	<b>Media Affected:</b>	Groundwater, Surface Water, Sediment, Soil
<b>Mission:</b>	Provide services in energetics through engineering, operational support, manufacturing technology, and production, and conduct research, development, and testing of energetic and ordnance device	<b>Funding to Date:</b>	\$ 43.7 million
<b>HRS Score:</b>	50.00; placed on NPL in February 1995	<b>Est. CTC (Comp Year):</b>	\$ 60.8 million (FY 2019)
<b>IAG Status:</b>	FFA signed in FY01.	<b>IRP Sites (Final RIP/RC):</b>	68 (FY2014)
		<b>MMRP Sites (Final RIP/RC):</b>	32 (FY2016)
		<b>Five-Year Review Status:</b>	Completed



Indian Head, Maryland

**Progress To Date**

Naval Support Facility, Indian Head (NSF-IH) provides services in energetics for all warfare centers, including engineering, fleet and operational support, manufacturing technology, limited production, and industrial base support. It produces and handles complex chemicals to accomplish this mission. Lead, silver, and mercury are the primary contaminants of concern. A technical review committee was formed in FY93 and converted to a Restoration Advisory Board in FY95. The installation was placed on the NPL in February 1995. In 2005, the BRAC Commission recommended NSF-IH for realignment. The installation prepared a community relations plan and established an information repository. The site management plan has been developed and updated. In FY98, the administrative record was converted to an electronic format, which is updated periodically. A federal facility agreement (FFA) was completed in FY01. The Indian Head Installation Restoration (IR) partnering team meets approximately 10 times a year and has been highly successful in facilitating agreements between the Navy and regulators. NSF-IH completed a 5-year review for Sites 12 and 42 in FY07.

Records of Decision (RODs) have been completed for 8 sites and No Further Action (NFA) RODs, or equivalent decision document (DD) for 28 sites. In FY02, the Navy completed an inventory of all Military Munitions Response Program (MMRP) sites. The cleanup progress at NSF-IH for FY03 through FY06 is detailed below.

In FY03, the installation completed the removal action for Site 12. The NFA documents were signed for Sites 32, 34, 51, and 52. In addition, the pilot study using a hydrogen-reducing compound was implemented at Site 57. The lessons learned for Site 12 were compiled and included information on erosion control measures and selection of fill material. The installation developed a range inventory and created 24 new MMRP sites. Additionally, the installation initiated preliminary assessments (PAs) for all MMRP sites.

In FY04, the installation completed remedial investigations (RIs) for Sites 6, 11, 13, 17, 21, 25, 28, 39, 45, and 47. NSF-IH began long-term monitoring at Site 12, and completed an RI of the Lab Area, which includes Sites 15, 16, 49, 50, 53, 54, and 55. It also completed the Mattawoman Creek ecological risk

assessment, a feasibility study (FS), and remedial design for Site 42. The Navy completed RODs for Sites 12, 13, and 25 and signed NFA DDs for Sites 5, 40, and Solid Waste Management Unit (SWMU) 74. The installation improved techniques by using desktop evaluations for several sites to reach decisions for NFA. The installation completed the draft final PA reports for the Indian Head main facility and Stump Neck Annex MMRP sites.

In FY05, NSF-IH completed baseline ecological risk assessments (BEAR) for Sites 11, 17, and 47 and initiated removal actions at Sites 17 and 42. The installation also initiated site screening process (SSP) investigations for Sites 2, 3, 4, 7, 8, 9, 18, 19, 20, 23, 24, 26, 27, 33, 36, 38, 43, 46, 48, and SWMUs 14 and 30. The installation completed site-screening investigation fieldwork for Sites 2, 4, 7, 18, 23, 36, 38, and 43. The installation signed NFA DDs for Sites 3, 9, 20, 33, 39, 45, 46, 48, 58, 59, and 61, and RODs for Sites 39, 42, and 45. NSF-IH completed PAs, site recommendations, site prioritization, and cost analysis documents for MMRP sites.

In FY06, NSF-IH completed removal or remedial actions at Sites 17, 42, and 57. The installation completed engineering evaluations and cost analyses for Sites 6 and 28 and an FS for Site 57. The Navy completed BERAs for Sites 28, 47, and the Lab Area. The installation also initiated a bench-scale study for Site 47. The installation completed SSP reports for Sites 2, 4, 7, 18, and 23, and signed a ROD for Site 42. The Navy also signed NFA DDs for Sites 2, 4, 7, 18, 23, 26, 56, the Wetland Area Adjacent to Site 45, and SWMU 30. The installation restarted removal actions at Unexploded Ordnance (UXO) 32, and completed Phase I (identification, demilitarization, and disposal of scrap munitions items).

**FY07 IRP Progress**

NSF-IH completed an FS for Site 11 and completed a BERA for Site 6. The installation completed SSP investigations for Sites 1, 8, 19, 26, 27, 36, and SWMUs 14 and 30. The Navy signed NFA DDs for Sites 24 and 26, and completed the Site 57 ROD. NSF-IH also completed a 5-year review for Sites 12 and 42, and a bench-scale test for Site 47.

Technical issues delayed the Site 11 ROD, Sites 17 and 47 FSs, and removal actions at Sites 6 and 28. Regulatory issues delayed the Site 21 ROD.

**FY07 MMRP Progress**

NSF-IH initiated the work plan for 17 MMRP sites; however, regulatory issues delayed its completion. The installation completed Phase I of the removal action at UXO 32; however, technical issues delayed its completion.

**Plan of Action**

Plan of action items for Indian Head Naval Surface Warfare Center are grouped below according to program category.

**IRP**

- Complete removal actions at Sites 6 and 28 in FY08.
- Complete field investigations for Sites 8 and 43 in FY08.
- Sign RODs for Sites 11 and 21 in FY08.
- Complete FSs for Sites 17 and 47 in FY08.
- Complete remedial actions at Sites 11, 17, 21, and 57 in FY09.

**MMRP**

- Complete fieldwork and sampling for 16 MMRP sites at the Stump Neck Annex in FY08.
- Complete the removal action at UXO 32 in FY08.
- Complete the work plan for eight MMRP sites and four water ranges at the main installation in FY09.

<b>FFID:</b>	IA721382044500	<b>Funding to Date:</b>	\$ 96.4 million
<b>Size:</b>	19,011 acres	<b>Est. CTC (Comp Year):</b>	\$ 31.1 million (FY 2039)
<b>Mission:</b>	Load, assemble, and pack munitions	<b>IRP Sites (Final RIP/RC):</b>	53 (FY2011)
<b>HRS Score:</b>	29.73; placed on NPL in August 1990	<b>MMRP Sites (Final RIP/RC):</b>	7 (FY2017)
<b>IAG Status:</b>	IAG signed in December 1990	<b>Five-Year Review Status:</b>	Completed and planned
<b>Contaminants:</b>	Explosives, low-level radioactive materials, heavy metals, VOCs, SVOCs, propellants		
<b>Media Affected:</b>	Groundwater, Surface Water, Sediment, Soil		



Middletown, Iowa

## Progress To Date

In 1941, the Army constructed the Iowa Army Ammunition Plant (AAP) to load, assemble, and pack various conventional ammunition and fuzing systems. During operations, industrial process wastewater and by-products were disposed at the installation. Site types include surface impoundments, production areas, landfills, and a fire-training pit. Soil and groundwater contamination resulted primarily from disposal of explosives and heavy metal-containing wastes directly onto the soil. The installation also identified small amounts of contamination by volatile organic compounds (VOCs). The installation has three operable units (OUs): soil (OU 1), groundwater (OU 3), and overall (OU 4). EPA placed Iowa AAP on the NPL in August 1990, and the installation signed an interagency agreement (IAG) in December 1990. Restoration activities through FY00 included closing one cell in the inert landfill, removing aboveground treatment tanks, removing lead-contaminated soil from a production line, and cleaning up an abandoned coal storage yard. The Army excavated and incinerated pesticide-contaminated soil off-site, excavated explosives-contaminated sumps, removed contaminated soil, and capped five landfill cells. The installation funded a project connecting local residences to a public water supply. Contaminated soil was removed from around production buildings at Lines 5A/5B and the West Burn Pads Area. Evaluations related to past Atomic Energy Commission activities have been conducted. The installation formed a Restoration Advisory Board (RAB) in FY97. In FY02, Congress designated the installation for inclusion into the Formerly Utilized Sites Remedial Action Program (FUSRAP) to address impacts from former Atomic Energy Commission industrial activities. Funds were provided to conduct an aerial radiological survey. The Army completed a 5-year review in FY05.

Environmental studies have identified Installation Restoration Program (IRP) sites at the installation. Of those sites, 42 require further action. To date, the installation has completed one interim Record of Decision (ROD) and one final ROD to address soil contamination. Three Atomic Energy Commission sites have been accepted into FUSRAP. In FY04, the Army completed an inventory of all Military Munitions Response Program (MMRP) sites. The cleanup progress at Iowa AAP for FY03 through FY06 is detailed below.

In FY03, the installation continued the off-site groundwater characterization and completed a supplemental soil removal at the fire-training pit. The Army initiated an inventory of closed, transferred, and transferring (CTT) ranges and sites with unexploded ordnance, discarded military munitions, or munitions constituents.

In FY04, the Army awarded a performance-based contract to address the entire IRP effort at Iowa AAP. The Army resolved the formal dispute with EPA. The installation removed soil contaminated with VOCs from the former fuel station and received a no further action (NFA) certificate from the State of Iowa. The Army completed the Phase IV soil removal at Line 9. The installation determined that Lines 4A/B, Line 8, and the Roundhouse Polychlorinated Biphenyls Site required NFA during Phase IV soil efforts. The Army released the proposed plan for off-post groundwater for public review and also submitted the draft ROD to regulators. The Army completed the CTT range and sites inventory and identified MMRP sites at this installation. The installation's RAB received training on hydrogeology, radiological contaminants, and ecological risk assessments (ERAs).

In FY05, the installation completed the remedial design (RD) for OU 1 and supplemental remedial investigation (RI) sampling for OU 4. Additionally, the installation conducted the off-site groundwater pilot study and began the on-site groundwater treatability study (TS). The Army completed the first 5-year review. The installation's RAB received training on endangered species, well monitoring, and the CERCLA process. The RAB also reviewed project activities.

In FY06, Iowa AAP continued soil treatment at Site IAAP 020 and completed the on-site groundwater TS. The baseline ERA was also completed. The Army implemented Bush Creek point source controls. The RAB reviewed project activities and provided stakeholder input. Iowa AAP initiated site inspections (SIs) at three MMRP sites.

## FY07 IRP Progress

Iowa AAP completed the soil removal at OU 1, the feasibility study and proposed plan for the OU 4 Inert Disposal Area, an explanation of significant differences (ESD) for the deletion of

radiological contaminants from the OU 1 soils interim ROD, and a comprehensive watersheds evaluation work plan. The cost of completing environmental restoration has changed significantly due to regulatory issues and changes in estimating criteria.

The implementation of a remedial action for OU 3 off-site groundwater was delayed due to regulatory issues. Additionally, regulatory issues also delayed the RD for OU 3 off-site groundwater and the ESD to merge OU 4 soils into OU 1.

## FY07 MMRP Progress

Iowa AAP completed an SI and historical records review for seven sites. All sites proceeded to the RI in accordance with the statement of dispute resolution. The installation submitted the draft RI work plan.

## Plan of Action

Plan of action items for Iowa Army Ammunition Plant are grouped below according to program category.

### IRP

- Complete OU 4 RI in FY08.
- Complete RD for OU 3 off-site groundwater in FY08.
- Complete ESD to merge OU 4 soils into OU 1 in FY08.
- Complete treatment of OUs 1 and 4 soil in FY08.

### MMRP

- Continue the RI of seven sites in FY08.

<b>FFID:</b>	FL417002441200	<b>Media Affected:</b>	Groundwater, Surface Water, Sediment, Soil
<b>Size:</b>	3,820 acres	<b>Funding to Date:</b>	\$ 92.8 million
<b>Mission:</b>	Maintain and operate facilities; provide services and materials to support aviation activities and aircraft overhaul operations	<b>Est. CTC (Comp Year):</b>	\$ 18.3 million (FY 2021)
<b>HRS Score:</b>	31.02; placed on NPL in November 1989	<b>IRP Sites (Final RIP/RC):</b>	80 (FY2014)
<b>IAG Status:</b>	FFA signed in October 1990	<b>MMRP Sites (Final RIP/RC):</b>	1 (FY2012)
<b>Contaminants:</b>	Waste solvents, caustics, cyanide, heavy metals, POLs, low-level radioactive wastes, oils, paints, PCBs, pesticides, phenols, radioisotopes, VOCs, SVOCs, explosives, propellants	<b>Five-Year Review Status:</b>	Completed and planned



Jacksonville, Florida

**Progress To Date**

Jacksonville Naval Air Station (NAS) maintains and operates facilities and provides services and materials to support aviation activities and aircraft overhaul operations. EPA placed the installation on the NPL in November 1989, and the installation signed a federal facility agreement (FFA) in October 1990. In 2005, the BRAC Commission recommended Jacksonville NAS for realignment. The installation includes the following site types: fire fighting training areas, waste storage and disposal areas, transformer storage areas, radioactive-waste disposal areas, and other miscellaneous support and maintenance areas. Typical operations have generated solvents, sludge (from on-site treatment plants), and low-level radioactive waste, which have migrated into nearby soil and local groundwater supplies. The installation's technical review committee, which formed in FY88, was converted to a Restoration Advisory Board in FY95. In FY91, the installation completed its community relations plan and established an administrative record and information repository. The installation completed 5-year reviews in FY01 and FY05.

To date, the installation has completed Records of Decision (RODs) for Operable Units (OUs) 2 and 3, Point Sources of Contamination (PSCs) 11, 16, 21, 46, 51, and 52. The installation also completed no further action (NFA) designation for underground storage tanks (USTs) 13 and 17. In FY02, the Navy completed an inventory of all Military Munitions Response Program (MMRP) sites. The cleanup progress at Jacksonville NAS for FY03 through FY06 is detailed below.

In FY03, Jacksonville NAS completed site assessment reports at the Petroleum Contaminated Areas (PCAs) 5, 18, 19, 23, 221, and completed soil excavation at PCAs 5 and 14. The installation continued the remedial action (RA) for PSCs 11 (Building 780 and Area B), 15 (Area G), and 48; PCAs 4, 14, and 16; and USTs 14 and 15. The installation completed the remedial investigation/feasibility study (RI/FS) for PSCs 46 and 51.

In FY04, the installation completed an RI/FS for PSCs 52 and 11 (Areas A and E). The installation completed the treatability studies (TSs) for PCAs 4, 14, and 16. The 5-year review progressed. The installation added and approved a site for the MMRP.

In FY05, Jacksonville NAS completed RODs for PSCs 46 and 51. The installation completed the 5-year review and completed optimizations of PSCs 11 (Building 780), 26, and 48 (Building 106). The installation continued RAs at PSC 46 and continued a TS at PSC 47. Lastly, the installation received NFA status on PCA 14. Jacksonville NAS developed the cost to complete cleanup for the identified MMRP site.

In FY06, Jacksonville NAS completed the ROD for PSC 11 Area A. The installation also completed a proposed plan (PP) for PSCs 11 and 52. The installation initiated site assessments for seven potential MMRP sites. A draft final preliminary assessment report was also issued by the Navy.

**FY07 IRP Progress**

Jacksonville NAS completed and received regulatory approval for the TS at PSC 47, and initiated an interim measure at the site. The Navy completed the ROD for PSC 52 and received regulator approval. The installation continued the groundwater plume assessment at OU 3, and also continued natural attenuation and long-term management.

Regulatory issues delayed completion of the PP and ROD at PSC 47. Excavation of contaminated soils at PCA 16 and PSC 46 was delayed due to regulatory and funding issues.

**FY07 MMRP Progress**

Jacksonville NAS initiated the site inspection (SI) for MMRP unexploded ordnance Site 1. The installation received approval to begin the SI phase at all MMRP sites.

**Plan of Action**

Plan of action items for Jacksonville Naval Air Station are grouped below according to program category.

**IRP**

- Complete RI/FS, PP, and ROD at PSC 47 in FY08.
- Complete the interim RA at PSCs 46 and 47 in FY08.
- Continue groundwater plume assessment at OU 3 in FY08.
- Complete site assessment report/RA plan at USTs 0004 and 00025 in FY08.
- Excavate contaminated soils at PCA 16 and PSC 46 in FY08.

**MMRP**

- Complete SI for MMRP sites in FY08.

<b>FFID:</b>	IN521382045400	<b>Funding to Date:</b>	\$ 27.5 million
<b>Size:</b>	55,270 acres	<b>Est. CTC (Comp Year):</b>	\$ 5.2 million (FY 2035)
<b>Mission:</b>	Performed production acceptance testing of ammunition, weapons, and their components	<b>IRP Sites (Final RIP/RC):</b>	82 (FY2005)
<b>HRS Score:</b>	N/A	<b>MMRP Sites (Final RIP/RC):</b>	15 (FY2003)
<b>IAG Status:</b>	None	<b>Five-Year Review Status:</b>	Planned
<b>Contaminants:</b>	Solvents, petroleum products, VOCs, PCBs, heavy metals, depleted uranium, UXO		
<b>Media Affected:</b>	Groundwater and Soil		



Madison, Indiana

**Progress To Date**

In December 1988, the BRAC Commission recommended closure of Jefferson Proving Ground and relocation of its mission to Yuma Proving Ground in Arizona. The installation closed on September 30, 1995. The 50,774 acres north of the firing line, included in the 1995 BRAC program, is known to be heavily contaminated with unexploded ordnance (UXO). The Army plans to retain the site indefinitely for use as a wildlife sanctuary and other government uses. The sites south of the firing line, identified during environmental studies, included landfill and disposal areas, hazardous waste storage areas, fire training areas, underground storage tanks (USTs), and buildings with asbestos-containing materials. Contaminants at the installation include depleted uranium, heavy metals, UXO, solvents, polychlorinated biphenyls (PCBs), volatile organic compounds (VOCs), and petroleum hydrocarbons. Interim remedial actions have included a landfill cap, removal of USTs, and excavation of contaminated soil. In FY94, the installation formed a BRAC cleanup team and a Restoration Advisory Board (RAB). During FY96, the installation issued an updated community relations plan. The Army procured a technical assistance for public participation (TAPP) contract to support the RAB in FY99.

To date, the Army has transferred the Defense Reutilization and Marketing Office Parcel area, the Airfield Parcel, the Western Wooded Parcel, the Northeast Parcel, and the central cantonment area (total of approximately 1,200 acres). The Army has signed one Record of Decision (ROD). In FY03, the Army completed an inventory of all Military Munitions Response Program (MMRP) sites. The cleanup progress at Jefferson Proving Ground for FY03 through FY06 is detailed below.

In FY03, the installation completed the feasibility study (FS) for the area south of the firing line. The Army signed the findings of suitability to transfer (FOSTs) for the Airfield Area and Northeastern Area. The Army distributed a draft FOST for the Western Wooded Parcel for public review. The Army completed the inventory of closed, transferred, and transferring ranges and sites and identified several MMRP sites. The community TAPP provider reviewed the draft FS.

In FY04, the Army transferred the Airfield Parcel. The installation completed the proposed plan for the area south of the firing line. The installation drafted a ROD for the area south of the firing line and provided it for public review and comment. The Army signed a letter of assignment for the transfer of the Western Wooded Parcel to Jefferson County via the National Park Service.

In FY05, the installation requested Nuclear Regulatory Commission (NRC) concurrence to begin 5-year site characterization of the depleted uranium area. Additionally, the installation completed the ROD and achieved remedy in place for areas south of the firing line. The installation began the long-term groundwater monitoring of sites covered under the ROD.

In FY06, Jefferson Proving Ground received a license amendment from the NRC granting a 5-year period to perform a site characterization of the depleted uranium area. The Army, NRC, and a local environmental group discussed concerns about the depleted uranium area. The installation transferred the Northeast Parcel.

**FY07 IRP Progress**

Jefferson Proving Ground obtained EPA approval of the Open Burn Unit restoration proposed plan and completed soil restoration fieldwork. The NRC Atomic Safety and Licensing Board held an administrative hearing to address local environmental issues. The installation continued 5-year site characterization of the depleted uranium area to support the restricted release license termination plan. The cost of completing environmental restoration has changed significantly due to technical issues and changes in estimating criteria.

**FY07 MMRP Progress**

The Army conducted no MMRP actions at this installation.

**Plan of Action**

Plan of action items for Jefferson Proving Ground are grouped below according to program category.

**IRP**

- Obtain regulatory concurrence on Open Burn Unit construction completion report in FY08.
- Continue 5-year depleted uranium area site characterization in FY08-FY09.

**MMRP**

There are no MMRP actions scheduled for FY08 or FY09.

<b>FFID:</b>	IL521382046000	<b>Media Affected:</b>	Groundwater and Soil
<b>Size:</b>	1,730 acres	<b>Funding to Date:</b>	\$ 124.0 million
<b>Mission:</b>	Manufacture, load, assemble, and pack munitions and explosives	<b>Est. CTC (Comp Year):</b>	\$ 5.0 million (FY 2012)
<b>HRS Score:</b>	35.23 (Loading, Assembling, and Packing Area); placed on NPL in March 1989; 32.08 (Manufacturing Area); placed on NPL in July 1987	<b>IRP Sites (Final RIP/RC):</b>	55 (FY2008)
<b>IAG Status:</b>	IAG signed in June 1989	<b>MMRP Sites (Final RIP/RC):</b>	4 (FY2008)
<b>Contaminants:</b>	Explosives, heavy metals, VOCs, PCBs, SVOCs, propellants	<b>Five-Year Review Status:</b>	Completed and planned



Wilmington, Illinois

**Progress To Date**

The Army constructed Joliet Army Ammunition Plant (AAP) in the early 1940s. It was then one of the largest munitions and explosives manufacturers in the Midwest. Installation operations included manufacturing explosives, and loading, assembling, and packing (LAP) munitions for shipment. EPA placed the 9,159-acre Manufacturing Area and the 14,385-acre LAP Area on the NPL in July 1987 and March 1989, respectively. The installation consolidated all sites into two operable units (OUs), one for groundwater contamination and another for contamination of soil. The installation signed an interagency agreement (IAG) in June 1989. In FY95, the installation formed a Restoration Advisory Board (RAB). In FY04, the installation completed 5-year reviews for soil and groundwater OUs.

Environmental studies conducted between FY78 and FY88 identified sites at Joliet AAP. The Army has transferred nearly 22,000 acres, including 15,000 acres to the U.S. Forest Service, almost 2,820 acres to the State of Illinois for industrial park reuse, 2,630 to U.S. Department of Agriculture (USDA), 982 acres to U.S. Department of Veterans Affairs, and 455 acres to Will County, Illinois. The Army also completed an installationwide Record of Decision (ROD) in FY99. The most significant cleanup activities completed through FY01 were excavation and treatment of many thousand tons of contaminated soil. The Army initiated the ROD for future USDA lands in FY02. The cleanup progress at Joliet AAP for FY03 through FY06 is detailed below.

In FY03, the installation excavated an additional 40,000 tons of explosives-contaminated soil from the TNT production area and bioremediated 36,000 tons of soil. The Army initiated a site inspection (SI) at four Military Munitions Response Program (MMRP) sites. A multi-agency group, which includes the Army, EPA, Illinois EPA, USDA, the U.S. Forest Service, U.S. Fish and Wildlife Service, and the Illinois Department of Natural Resources, reached agreement on the cleanup goals for Joliet AAP lands transferred to USDA.

In FY04, the installation completed 5-year reviews for soil and groundwater OUs. The Army transferred 305 acres to the State of Illinois; the remaining balance of land is slated for the Island City Industrial Park. The installation completed a feasibility

study, proposed plan, and ROD for lands transferred to USDA and initiated a transfer of 2,440 acres to USDA. The installation excavated and bioremediated an additional 36,000 tons of explosives-contaminated soil. Additionally, the installation initiated the SIs for MMRP sites.

In FY05, Joliet AAP completed remedial action (RA) in the TNT Area. The Army transferred 304 acres of Deer Run Industrial Park to the State of Illinois and 2,630 acres to USDA. The Army began RA for future USDA lands. The Army initiated a performance-based contract (PBC) for landfills and groundwater. The installation completed an SI of MMRP sites. The PBC addressing landfills and groundwater also includes optional line items to conduct post-SI actions at the four MMRP sites.

In FY06, Joliet AAP completed cleanup and developed transfer documentation for 235 acres to the State of Illinois. It also completed cleanup and developed transfer documentation for 580 acres to USDA. Joliet AAP completed RA at Sites L1, L4, L7, L8, L9, L10, M2, and M9 and continued the long-term management (LTM) program for groundwater. The installation initiated the remedial design for three MMRP sites and implemented RA for one MMRP site.

**FY07 IRP Progress**

Joliet AAP completed excavation of all contaminated soil located in the soil OU. The Army completed bioremediation of all explosives contaminated soils (276,000 tons). The installation continued LTM at groundwater OU. The Army implemented construction of three landfill caps. The cost of completing environmental restoration has changed significantly due to technical issues.

Joliet AAP temporarily suspended regular RAB meetings, which will officially adjourn after final land transfer.

**FY07 MMRP Progress**

The installation completed RAs at all sites, and identified one new MMRP site.

**Plan of Action**

Plan of action items for Joliet Army Ammunition Plant are grouped below according to program category.

**IRP**

- Initiate LTM at applicable soil OU in FY08.
- Transfer remaining acreage to the USDA and State of Illinois in FY08.
- Complete final three landfill caps in FY08.
- Initiate LTM for landfills in FY08.
- Continue LTM at groundwater OU in FY08.

**MMRP**

- Conduct SI at new MMRP site in FY08.
- Prepare a ROD to close three previously cleared sites in FY08.

<b>FFID:</b>	MI557002476000	<b>Funding to Date:</b>	\$ 58.5 million
<b>Size:</b>	4,953 acres	<b>Est. CTC (Comp Year):</b>	\$ 19.7 million (FY 2037)
<b>Mission:</b>	Conducted long-range bombardment and air refueling operations	<b>IRP Sites (Final RIP/RC):</b>	30 (FY2006)
<b>HRS Score:</b>	N/A	<b>MMRP Sites (Final RIP/RC):</b>	6 (FY1999)
<b>IAG Status:</b>	None	<b>Five-Year Review Status:</b>	Completed and planned
<b>Contaminants:</b>	POLs, pesticides, heavy metals, solvents, SVOCs, VOCs		
<b>Media Affected:</b>	Groundwater, Surface Water, Sediment, Soil		



Gwinn, Michigan

**Progress To Date**

In July 1993, the BRAC Commission recommended closure of K.I. Sawyer Air Force Base (AFB), deactivation of the 410th Wing, and transfer of the base's mission. In September 1995, the installation closed. Environmental studies have been in progress at the installation since FY84. Sites identified through environmental studies conducted at the installation include landfills, fire training (FT) areas, underground storage tanks (USTs), aboveground storage tank spill sites, drainage pits, and a drainage pond (DP). The primary contaminants affecting soil and groundwater are petroleum hydrocarbons, trichloroethylene (TCE), tetrachloroethylene (PCE), vinyl chloride, and heavy metals. Interim remedial actions (RAs) have included removal of USTs, removal and cleanup of contaminated soil, installation of groundwater extraction wells, construction and operation of a groundwater treatment plant, removal of fuel from groundwater at the former petroleum/oil/lubricant (POL) storage area (ST 004), and installation of bioventing systems. In FY94, a Restoration Advisory Board (RAB) was formed and the installation received a technical assistance for public participation (TAPP) grant for work performed in FY99. TAPP funding was used for the technical review of documents for Landfill (LF) 001, Site ST 004, and FT 006. The installation completed its first 5-year review in FY06.

Installation Restoration Program (IRP) sites have required additional investigation at the installation. To date, no further action closure documents have been completed for 21 sites. In FY04, the Air Force conducted an inventory of Military Munitions Response Program (MMRP) sites. The cleanup progress at K.I. Sawyer AFB for FY03 through FY06 is detailed below.

In FY03, the installation attained response complete at two sites, FR 026 (Firing and Machine Gun Range) and XE 027 (Explosive Ordnance Disposal Range). The installation also transferred 93 acres to the County of Marquette. A remedial process optimization review was planned to identify opportunities for enhancing the effectiveness and efficiency of remediation efforts.

In FY04, the installation completed the RA construction at Site OT 013 and the modification of the Site ST 004 interceptor trench. The Air Force conducted an inventory of MMRP sites. MMRP sites were identified at this installation.

In FY05, the installation completed closure sampling for the soil vapor extraction (SVE) system at Site FT 006 in anticipation of system shutdown and decommissioning. The closeout sampling protocol was also initiated at Site DP 002. The installation developed a shutdown plan at Site OT 013. Groundwater monitoring continued at various sites. Transfer of the remaining property at K.I. Sawyer was completed; only the property at the Defense Fuels Supply Point (DFSP) at Escanaba (Site OT 013, 40 acres) remained to be transferred. The Air Force began evaluating requirements at MMRP sites at this installation. The installation also initiated the first 5-year review. The RAB held an annual meeting.

In FY06, the installation completed optimization of basewide groundwater monitoring, thus reducing the frequency and number of wells sampled. The Air Force continued to verify that the rebound of contaminants will not occur with the treatment system shutdown at DP 002 through limited groundwater sampling. K.I. Sawyer AFB continued working toward completion of RAs at the DFSP (Site OT 013) and combined Escanaba Areas 1 and 2 for purposes of property transfer. The installation completed its first 5-year review. The Air Force continued monitoring and routinely inspecting sites, and completed optimization of basewide groundwater monitoring. The installation evaluated requirements at MMRP sites. The RAB held an annual meeting.

**FY07 IRP Progress**

K.I. Sawyer AFB transferred the Escanaba DFSP property.

**FY07 MMRP Progress**

No MMRP actions were conducted at this installation.

**Plan of Action**

Plan of action items for K.I. Sawyer Air Force Base are grouped below according to program category.

**IRP**

- Optimize the treatment system at Site ST 004 in FY08.
- Dismantle SVE system at FT 006 in FY08.
- Prepare documentation to participate in the regional performance-based contract in FY08.
- Refresh the basewide groundwater optimization and optimize routine inspections in FY08.

**MMRP**

There are no MMRP actions scheduled for FY08 or FY09.

<b>FFID:</b>	KS721382046700	<b>Funding to Date:</b>	\$ 38.3 million
<b>Size:</b>	13,727 acres	<b>Est. CTC (Comp Year):</b>	\$ 16.6 million (FY 2039)
<b>Mission:</b>	Produce munitions and maintain replenishment production capability	<b>IRP Sites (Final RIP/RC):</b>	34 (FY2009)
<b>HRS Score:</b>	N/A	<b>MMRP Sites (Final RIP/RC):</b>	1 (FY2011)
<b>IAG Status:</b>	None	<b>Five-Year Review Status:</b>	Planned
<b>Contaminants:</b>	Explosives, metals, dioxins, furans, VOCs, SVOCs, propellants		
<b>Media Affected:</b>	Groundwater, Surface Water, Sediment, Soil		



Labette County, Kansas

**Progress To Date**

The 2005 BRAC Commission recommended Kansas Army Ammunition Plant (AAP) for closure. The Army established Kansas AAP in 1941-42 as part of the pre-World War II build-up. The original construction consisted of three load lines, four component areas, an ammonium nitrate area, five explosive storage areas, an inert storage area and a maintenance and administration area. The RCRA Part B permit, issued in August 1989, identified 25 solid waste management units requiring investigation for possible contamination. Areas of investigation include production areas, landfills, open burning cages, open burning pads, an open detonation area, and miscellaneous maintenance and support areas. Primary contaminants of concern in the production and open burning areas are explosives and metals. The Army has detected explosives in groundwater in some production areas. The greatest hazards in the production areas were generally highest near the sumps and production facilities. The Army detected some contamination at all landfill areas. Two closed landfill areas contained volatile organic compounds (VOCs), semi-volatile organic compounds (SVOCs), and metals in surface soils and groundwater. The Phase I RCRA facility investigations of contaminated sites began in FY92 and were completed in FY98. The human health risk assessment and ecological risk assessment were approved in FY99.

The installation completed a corrective measures study (CMS) that identified some sites for no further action and five sites for corrective actions. The Army has completed removal actions for explosives contamination and metals-contaminated soils at the 900 Area, 1000 Area, 1100 Area, and open burn areas. The cleanup progress at Kansas AAP for FY03 through FY06 is detailed below.

In FY03, Kansas AAP completed the installation of a monitored natural attenuation system for the 700 Area Groundwater. The installation also completed additional investigation of the groundwater at Site KAAP 22.

In FY04, the installation completed remedial actions for soil at Sites KAAP 10, 20, 21, 22, and 41 using excavation and thermal treatment of explosives-contaminated soil and

solidification/stabilization of metals-contaminated soil. The installation also initiated further investigations of Sites KAAP 17 and 19 groundwater.

In FY05, the BRAC Commission recommended Kansas AAP for closure. Kansas AAP completed the Closure/Post-Closure Plan for the 700 Area Groundwater. Kansas AAP also completed an installationwide CMS for groundwater and landfill covers, and remedial investigations at Site KAAP 43.

In FY06, the installation presented a sitewide Statement of Basis to the public. The Army initiated an environmental condition of property (ECP) report in response to the BRAC 2005 recommendation for closure of the installation.

**FY07 IRP Progress**

Kansas AAP completed the ECP and CERFA reports. The installation upgraded the landfill covers at Sites KAAP 03, 04, and 05. The Army continued groundwater long-term management (LTM).

**FY07 MMRP Progress**

The Army conducted no Military Munitions Response Program (MMRP) actions at this installation.

**Plan of Action**

Plan of action items for Kansas Army Ammunition Plant are grouped below according to program category.

**IRP**

- Complete 1200 Area soil removal project in FY08.
- Continue installationwide groundwater LTM in FY08.

**MMRP**

- Complete remedial investigation at the Old Ammunition Storage Area in FY08.

<b>FFID:</b>	TX657172433300	<b>Est. CTC (Comp Year):</b>	\$ 81.8 million (FY 2023)
<b>Size:</b>	3,997 acres	<b>IRP Sites (Final RIP/RC):</b>	35 (FY2006)
<b>Mission:</b>	Provide depot-level aircraft and engine repair	<b>MMRP Sites (Final RIP/RC):</b>	2 (FY2008)
<b>HRS Score:</b>	N/A	<b>Five-Year Review Status:</b>	Completed and planned
<b>IAG Status:</b>	None		
<b>Contaminants:</b>	Metals, VOCs, SVOCs		
<b>Media Affected:</b>	Groundwater, Surface Water, Soil		
<b>Funding to Date:</b>	\$ 263.0 million		



San Antonio, Texas

**Progress To Date**

In July 1995, the BRAC Commission recommended closure and realignment of Kelly Air Force Base (AFB). The Defense Distribution Depot, San Antonio, closed in July 2001, and the airfield and all associated support activities were realigned to Lackland AFB, Texas. Sites identified at the installation include landfills, spill sites, former fire training areas, low-level radioactive waste sites, underground storage tanks, aircraft maintenance areas, sludge lagoons, and sludge-spreading beds. The installation formed a Restoration Advisory Board (RAB) in FY94. In FY96, a BRAC cleanup team (BCT) was formed and the first BRAC cleanup plan was issued. In FY99, the installation received technical assistance for public participation funding that allowed the RAB to review the basewide groundwater assessment and the Agency for Toxic Substances and Disease Registry public health assessment. The installation completed a 5-year review in FY06.

Investigations of the installation identified Installation Restoration Program (IRP) sites, which were separated into five zones. Two range sites have also been identified. To date, the installation has transferred approximately 428 acres to the local redevelopment authority (LRA). In FY04, the Air Force conducted an inventory of Military Munitions Response Program (MMRP) sites. The cleanup progress at Kelly AFB for FY03 through FY06 is detailed below.

In FY03, the installation awarded design and construction contracts for two permeable reactive barriers in off-base residential areas. Petroleum storage tank removals were completed and one tank site was closed. Ten no further action determinations were approved for radiological sites. The installation decontaminated and demolished building and interior sewer lines with low-level radiological contamination. Twenty-six low-level radiological sites were closed. The installation submitted and obtained conditional approval of shallow groundwater corrective measures (CMSs). Additional protective measures were completed through a unique partnership with several agencies. Demonstration projects for injection technology were conducted and 6.5 acres were transferred by deed to the LRA.

In FY04, the installation transferred 107 acres to the LRA. The Air Force installed Zone 5 and began construction of Zone 4 off-base shallow groundwater remedies. The installation also completed the demolition and cleanup of the former industrial wastewater treatment plant (IWTP) and began construction of the final IRP groundwater and soil remedies in Zone 2. Additionally, the installation completed installation of final IRP groundwater remedies in Zone 3. The Air Force conducted an inventory of MMRP sites. MMRP sites were identified at this installation. The community relations plan was updated to indicate the status of remediation efforts and identify ongoing opportunities for community involvement.

In FY05, the Air Force completed installation of the Zone 4 off-base shallow groundwater remedies. The installation submitted the closure report for the former IWTP. Discussions between the installation and regulators continued on the ecological risk report for Leon Creek. The installation completed construction of the final IRP groundwater and soil remedies in Zone 2. The Air Force began evaluating requirements at MMRP sites at this installation. The RAB continued to meet quarterly; the BCT continued to meet once a month.

In FY06, the installation continued long-term management (LTM) and operations of remedial systems. The Air Force submitted a Class 3 modification to the RCRA compliance plan to regulators for approval of final remedies for Zones 4 and 5 sites, including remedies for the off-base shallow groundwater. Regulators approved the Tier 2/Tier 3 ecological risk assessment and the Zones 2 and 3 CMSs. The installation completed the first 5-year review and submitted it to regulators. Regulators approved closure of 10 IRP sites in Zone 2. The Air Force transferred approximately 106 acres to the LRA. The RAB met quarterly. Five BCT meetings were held. The Air Force developed a sampling plan for soils associated with the small arms firing range.

**FY07 IRP Progress**

Kelly AFB continued LTM and operations of 16 remedial systems. The Air Force submitted a Class 3 modification to the RCRA compliance plan to regulators for approval of final remedies for Zones 2 and 3 sites. Installation of soil remedies at four Zone 3 sites was completed. Regulators approved the Class 3 modification to the RCRA compliance plan for final

remedies for Zones 4 and 5 sites. Site D 10 was closed. The cost of completing environmental restoration has changed significantly due to changes in estimating criteria.

The RAB and BCT each met four times.

**FY07 MMRP Progress**

The former small arms firing range (Building 3430) was demolished, and soil samples were taken to prepare a closure report.

**Plan of Action**

Plan of action items for Kelly Air Force Base are grouped below according to program category.

**IRP**

- Submit RCRA permit renewal application in FY08.
- Complete finding of suitability to transfer and the operating properly and successfully determination report for Zones 4 and 5 sites, and transfer 1,000 acres to the LRA in FY08.
- Complete installation of soil remedy in Zone 3 in FY08.
- Coordinate with state regulators to complete Class 3 modification to the RCRA compliance plan to get approval for final remedies for Zones 2 and 3 sites in FY08.
- Continue LTM and operations of remedial systems in FY08.

**MMRP**

- Obtain closure of the small arms firing range in FY08.

<b>FFID:</b>	WA017002341900	<b>Funding to Date:</b>	\$ 33.6 million
<b>Size:</b>	340 acres	<b>Est. CTC (Comp Year):</b>	\$ 9.3 million (FY 2036)
<b>Mission:</b>	Test, prove, overhaul, and issue torpedoes	<b>IRP Sites (Final RIP/RC):</b>	13 (FY2007)
<b>HRS Score:</b>	32.61; placed on NPL in October 1989	<b>MMRP Sites (Final RIP/RC):</b>	None
<b>IAG Status:</b>	FFA signed in FY90	<b>Five-Year Review Status:</b>	Completed and planned
<b>Contaminants:</b>	VOCs, heavy metals, petroleum hydrocarbons, herbicides, fuel, PCBs, pesticides, SVOCs		
<b>Media Affected:</b>	Groundwater, Surface Water, Sediment, Soil		



Keyport, Washington

**Progress To Date**

In September 1995, the BRAC Commission recommended realignment of Keyport Naval Undersea Warfare Center (NUWC). The center's responsibility for maintaining combat system consoles and its general industrial workload were moved to Puget Sound Naval Shipyard. Operations at the installation, including plating, torpedo refurbishing, and disposal, contributed to contamination at the property. Environmental investigations at the installation have identified sites such as underground storage tanks, sumps, spill sites, a landfill, and an underground trench. A technical review committee was formed in FY89 and converted to a Restoration Advisory Board in FY95. EPA placed the installation on the NPL in October 1989, and the Navy signed a federal facility agreement (FFA) in FY90. A community relations plan was completed in FY90 and updated in FY00. The installation completed 5-year reviews in FY00 and FY05.

The installation completed a Record of Decision for Operable Units (OUs) 1 and 2. In FY02, the Navy completed an inventory of all Military Munitions Response Program (MMRP) sites. The cleanup progress at Keyport NUWC for FY03 through FY06 is detailed below.

In FY03, the installation completed a contingency plan for off-base domestic wells for OU 1. In addition, it continued remedial action-operations (RA-O) at OU 1 and long-term management (LTM) at OUs 1 and 2.

In FY04, the installation continued RA-O at OU 1 and LTM at OUs 1 and 2, and initiated the second 5-year review.

In FY05, Keyport NUWC continued RA-O at OU 1 and LTM at OUs 1 and 2. The installation initiated an optimization study of OU 1, and completed the second 5-year review. Additionally, the installation resolved sediment issues.

In FY06, Keyport NUWC continued RA-O at OU 1 and LTM at OUs 1 and 2. The installation also completed an optimization study of OU 1.

**FY07 IRP Progress**

Keyport NUWC continued RA-O at OU 1. The installation also continued LTM at OUs 1 and 2.

**FY07 MMRP Progress**

The Navy has identified no MMRP sites at this installation.

**Plan of Action**

Plan of action items for Keyport Naval Undersea Warfare Center are grouped below according to program category.

**IRP**

- Continue RA-O at OU 1 in FY08.
- Continue LTM at OUs 1 and 2 in FY08.

**MMRP**

There are no MMRP actions scheduled for FY08 or FY09.

<b>FFID:</b>	MO721382048900	<b>Funding to Date:</b>	\$ 137.2 million
<b>Size:</b>	3,935 acres	<b>Est. CTC (Comp Year):</b>	\$ 71.4 million (FY 2037)
<b>Mission:</b>	Manufacture, store, and test small-arms munitions	<b>IRP Sites (Final RIP/RC):</b>	36 (FY2008)
<b>HRS Score:</b>	33.62; placed on NPL in July 1987	<b>MMRP Sites (Final RIP/RC):</b>	None
<b>IAG Status:</b>	IAG signed in September 1989	<b>Five-Year Review Status:</b>	Completed
<b>Contaminants:</b>	Explosives, heavy metals, solvents, VOCs, POLs, SVOCs, propellants		
<b>Media Affected:</b>	Groundwater, Surface Water, Soil		



Independence, Missouri

### Progress To Date

Operations at the Lake City Army Ammunition Plant (AAP), a government-owned, contractor-operated facility, include the manufacture, storage, and testing of small-arms munitions. Principal site types at the installation include abandoned disposal pits, sumps, firing ranges, old lagoons, old dumps, and closed RCRA lagoons and burning grounds. Sampling at seven representative areas identified groundwater contaminated with volatile organic compounds (VOCs), explosives, and heavy metals. EPA placed Lake City AAP on the NPL in July 1987, and EPA and the Army signed an interagency agreement (IAG) in September 1989. The installation formed a Restoration Advisory Board (RAB) in FY97. The Army completed a 5-year review in FY05.

Environmental studies identified sites at Lake City AAP. In FY04, the Army completed an inventory of all Military Munitions Response Program (MMRP) sites. The Army completed four Records of Decision (RODs). The cleanup progress at Lake City AAP for FY03 through FY06 is detailed below.

In FY03, the installation completed permeable reactive wall plume delineation activities, which included the collection and review of data, and prepared a summary report. The field characterization work plan for the Installationwide Operable Units (IWOU) was completed. The Army installed monitoring wells to confirm and monitor VOC plumes in Northeast Corner OU (NECOU). The installation completed source characterization sampling, completed field screening, and installed approximately 35 of the 70 total monitoring wells. The installation initiated the installation of the remaining 35 wells and began soil sampling. Sampling of Area 18 monitoring wells was completed. The installation continued pump-and-treat operations to contain contaminated groundwater. The Army initiated an inventory of closed, transferred, and transferring (CTT) ranges and sites with unexploded ordnance, discarded military munitions, or munitions constituents.

In FY04, the installation continued operation of the pump-and-treat system to contain contaminated groundwater and executed a transition plan from using a total environmental restoration contract to using a performance-based contract (PBC). The PBC contractor completed work plans for completing characterization activities in all OUs. Sampling

activities began in Area 18. The installation began the IWOU remedial investigation and feasibility study (RI/FS). The PBC contractor developed a schedule for completion of remedies in place by FY07. The installation completed a new groundwater model and developed a groundwater management strategy. Sampling was completed to validate the public health risk assessment for the active firing range. The installation prepared a draft engineering evaluation and cost analysis (EE/CA) for the non-time critical removal action for five "housekeeping" sites. The Army completed the CTT ranges and sites inventory and identified one closed MMRP site. The installation hosted four RAB meetings and one RAB workshop.

In FY05, Lake City AAP completed RI activities and removal actions at three of the five "housekeeping" sites. The installation executed the pilot tests in Area 18 and NECOU. The installation also updated the sitewide groundwater model and monitoring plan. Two additional offsite wells were constructed and sampled. The Army completed the characterization of an EE/CA for the inactive sumps. Additionally, pump-and-treat operations continued. The Army completed its first 5-year review at Lake City AAP.

In FY06, the installation continued to operate the pump-and-treat system to contain contaminated groundwater. It also completed RI activities and FSs for the NECOU, IWOU, and Area 18 OU.

### FY07 IRP Progress

Lake City AAP continued operation of the pump-and-treat system to contain contaminated groundwater. The installation completed the removal actions at Area 31 and inactive sumps. Lake City AAP signed the RODs for NECOU and Area 18. The Army has initiated the installation of remedies.

Technical issues delayed the RI/FS for Area 10 and signature for IWOU ROD.

### FY07 MMRP Progress

The Army conducted no MMRP actions at this installation.

### Plan of Action

Plan of action items for Lake City Army Ammunition Plant are grouped below according to program category.

#### IRP

- Complete implementation of remedies and decision documents (DDs) in FY08.
- Begin operations and monitoring of NECOU, IWOU, and Area 18 in FY08.
- Execute Area 10 removal action in FY08.
- Complete RI/FS for Area 10 in FY08.
- Sign IWOU ROD in FY08.
- Institute land use control plan in accordance with DDs in FY08.

#### MMRP

There are no MMRP actions scheduled for FY08 or FY09.

<b>FFID:</b>	NJ217002727400	<b>Est. CTC (Comp Year):</b>	\$ 58.7 million (FY 2050)
<b>Size:</b>	7,382 acres	<b>IRP Sites (Final RIP/RC):</b>	45 (FY2000)
<b>Mission:</b>	Perform technology development and engineering	<b>MMRP Sites (Final RIP/RC):</b>	6 (FY2018)
<b>HRS Score:</b>	50.53; placed on NPL in July 1987	<b>Five-Year Review Status:</b>	Completed
<b>IAG Status:</b>	FFA signed in October 1989		
<b>Contaminants:</b>	PCBs, solvents, TCE, waste oils, fuels, VOCs, SVOCs, metals		
<b>Media Affected:</b>	Groundwater, Surface Water, Sediment, Soil		
<b>Funding to Date:</b>	\$ 58.4 million		



Lakehurst, New Jersey

**Progress To Date**

Historical operations at Lakehurst Naval Air Engineering Station (NAES) involved handling, storage, and onsite disposal of hazardous substances. EPA placed the installation on the NPL in July 1987, and the Navy signed a federal facility agreement (FFA) in October 1989. In FY01 and FY06, the installation completed 5-year reviews.

To date the installation has completed Records of Decision for all sites. In FY02, the Navy completed an inventory of all Military Munitions Response Program (MMRP) sites. The cleanup progress at Lakehurst NAES for FY03 through FY06 is detailed below.

In FY03, the installation continued operation and maintenance (O&M), monitoring, data interpretation, and reporting for three pump-and-treat systems, four soil vapor extraction (SVE)/bioventing/sparge systems, six spray aeration systems, and one natural restoration site. The installation began using bimetallic nanoscale particles (BNP) to treat areas of higher level groundwater contamination in Areas I and J. The installation submitted a list of ranges at Lakehurst NAES to be addressed under the MMRP. A preliminary site survey, conceptual models, and draft preliminary assessments (PAs) have been completed for these ranges.

In FY04, the installation obtained a no further action determination for Site 28, which was included in the construction completion report for Lakehurst NAES. The installation also completed nanoscale particle treatment of higher level groundwater contamination in Areas I and J (in addition to natural restoration) to demonstrate that all remedies are operating properly and successfully, and continued with the NPL construction completion process. Lakehurst NAES added a sparge well and thermal oxidizer to the existing soil vapor treatment system at Site 13 and reduced sampling requirements for three existing pump-and-treat systems. The installation completed the draft final PAs for four MMRP sites.

In FY05, Lakehurst NAES conducted treatability testing of in situ chemical oxidation for treatment of groundwater at Site 16. The installation continued O&M, monitoring, data interpretation, and reporting for three pump-and-treat systems, four SVE/bioventing/sparge systems, six spray irrigation systems,

and one natural restoration site. Lakehurst NAES distributed draft final PAs to regulators for review and comment. The installation conducted data collection, a site visit, and prepared a PA for the Lakehurst Proving Grounds.

In FY06, Lakehurst NAES completed a 5-year review of the remaining sites. The facility expanded the BNP treatment of groundwater in Areas I and J and completed a specification for the expansion of treatment systems at Sites 10, 13, 16, 17, and 32. The installation continued O&M, monitoring, data interpretation, and reporting for three pump-and-treat systems, four SVE/bioventing/sparge systems, six spray aeration systems, and one natural restoration site. The Navy distributed final PAs for Lakehurst Proving Ground and Small Range sites to regulators for review and comment.

**FY07 IRP Progress**

Lakehurst NAES conducted subsurface sampling of buildings in Areas B, H, and K to determine the potential for vapor intrusion, and installed an additional recovery well in Area B to accelerate recovery and treatment of contaminated groundwater. The installation abandoned recovery and monitoring wells at Site 28. The Navy updated the quality assurance plan for remaining sites, and expanded treatment systems at Sites 10, 13, and 17. The cost of completing environmental restoration has changed significantly due to technical issues.

**FY07 MMRP Progress**

Lakehurst NAES initiated the characterization of Lakehurst Proving Ground through completing PAs and awarding site investigations (SIs) for all MMRP sites.

**Plan of Action**

Plan of action items for Lakehurst Naval Air Engineering Station are grouped below according to program category.

**IRP**

- Install additional treatment systems at Sites 32 and 42 in FY08.
- Expand treatment systems at Sites 10, 13, 16, 17, and 32 to accelerate groundwater remediation in FY08.

**MMRP**

- Begin fieldwork for SIs in FY08.

<b>FFID:</b>	VA357212447700	<b>Contaminants:</b>	Pesticides, PCBs, solvents, heavy metals, petroleum products, SVOCs, radioactive materials, VOCs
<b>Size:</b>	3,152 acres	<b>Media Affected:</b>	Groundwater, Surface Water, Sediment, Soil
<b>Mission:</b>	Serve as host to many organizations, including Air Combat Command Headquarters, 1st Fighter Wing, AF Command and Control & Intelligence, Surveillance & Reconnaissance Center, and 480th Reconnaissance Wing.	<b>Funding to Date:</b>	\$ 75.9 million
<b>HRS Score:</b>	50.00; placed on NPL in May 1994	<b>Est. CTC (Comp Year):</b>	\$ 19.4 million (FY 2015)
<b>IAG Status:</b>	NASA signed a FFA in October 1993; Air Force FFA under negotiation	<b>IRP Sites (Final RIP/RC):</b>	54 (FY2008)
		<b>MMRP Sites (Final RIP/RC):</b>	10 (FY2015)
		<b>Five-Year Review Status:</b>	Completed and planned



Hampton, Virginia

## Progress To Date

Langley Air Force Base (AFB) has been an airfield and an aeronautical research center since 1917 and is the home base of the 1st Fighter Wing and Headquarters Air Combat Command. The installation and the adjacent National Aeronautics and Space Administration (NASA) Langley Research Center were jointly placed on the NPL in May 1994. NASA's restoration program is funded and managed separate from the Langley AFB program. In 2005, the BRAC Commission recommended Langley AFB for realignment. Sites at this installation include landfills, underground storage tanks, a bulk fuel distribution system, and storm sewers. Investigations have determined that contaminants are migrating into Tabbs Creek, Back River, and ultimately the Chesapeake Bay. The installation formed a Restoration Advisory Board in FY94. Five-year reviews were completed in FY01 and FY04.

To date, six bilaterally signed Records of Decision (RODs) and two unilaterally signed RODs have been signed. The cleanup progress at Langley AFB for FY03 through FY06 is detailed below.

In FY03, the installation completed a site inspection (SI) for Areas of Concern (AOCs) 66, 67, and 68, and a feasibility study (FS) for Landfill (LF) 17, Site OT 55, and SS 63. Remedial actions (RAs) for LFs 05, 07, 12, and 18, as well as remedial designs (RDs) for Sites WP 02 and 14 were completed. In addition, the Air Force closed Site OT 55 and met all fiscal year requirements to prepare for the 5-year review at SS 61. The installation initiated a no further RA planned determination for Site OT 55 as recommended by the remedial investigation/FS.

In FY04, Langley AFB completed a 5-year review at SS 61. In order to put all sites on the same schedule, LFs 05, 07, 10, 12 and 18, and Site FT 41 were added to the 5-year review. Long-term monitoring for LFs 05, 07, 12 and 18, and Site FT 41 was completed. The installation also completed SIs for three AOCs, an FS for three sites, and RA-construction (RA-C) for one site.

In FY05, Langley AFB awarded a 5-year basewide guaranteed fixed price performance-based contract (PBC). The contract includes FSs to site closure for Sites WP 08, LFs 17 and 70, OT 25, and SS 63, as well as long-term management (LTM) at

LFs 05, 07, 12, and 18, Site FT 41, SS 61, and Site OT 64. The installation also developed an NPL deletion strategy as part of the PBC. Langley AFB began RA at LFs 10 (western lobe) and 11, and changed the remedy at LF 01 due to proximity to the airfield and numerous buried utilities. The Defense and State Memorandum of Agreement with the Commonwealth of Virginia was updated and identified levels of effort by the state through June 2012 in support of the Installation Restoration Program (IRP). The Air Force began the preliminary assessments (PAs) for all identified Military Munitions Response Program (MMRP) sites.

In FY06, Langley AFB completed interim RAs for SS 61 and Site OT 06A. The installation amended FSs for LF 17 and Site OT 25, and completed one FS for SS 63. The Air Force issued a revised proposed plan (PP) and ROD amendment for LF 01 and completed RA-C at LFs 01, 11, and 22. Langley AFB continued LTM at LFs 05, 07, 12, and 18, and Site FT 41, and SS 61. The installation completed the RA at LF 11, completed FSs at LF 17 and Site OT 25, and drafted RODs and PPs for LF 17, Site OT 25, and SS 63/Black River Sediments. The installation continued PAs at all identified MMRP sites.

## FY07 IRP Progress

Langley AFB completed the RA-C (soil cover) for LF 10. The installation completed a no further action (NFA) decision document (DD) for AOC 69 and the SI for AOC 70. The installation drafted a ROD for LF 15, and another ROD for LFs 01, 05, 07, and 18, and Site FT 41. LF 11 and Site OT 56 are included in RODs under development. The cost of completing environmental restoration has changed significantly due to changes in estimating criteria.

NFA DDs for AOCs 66, 67, and 68 are pending completion of the LF 22 RD. Regulatory issues delayed completion of the FS, PP, and ROD for Site OT 64. Langley AFB completed PPs for LF 17 and the LTA Cove portion of SS 63, and revised the PP for Site OT 25. The RODs, RD, and RA-C for LF 17, the LTA Cove portion of SS 63, and Site OT 25 were delayed due to regulatory issues.

## FY07 MMRP Progress

Langley AFB completed the Phase I PA comprehensive site evaluation (CSE) and awarded the CSE for Phase II SIs.

## Plan of Action

Plan of action items for Langley Air Force Base are grouped below according to program category.

### IRP

- Finalize Site OT 64 FS and Site WP 02 FS addendum in FY08.
- Finalize NFA DDs and RDs for AOCs 66, 67, and 68 in FY08.
- Finalize the PPs and RODs, and complete the RD and RA-C, for Sites WP 08, LF 17, the LTA Cove portion of SS 63, and the SW Branch portion of SS 63 in FY08.
- Finalize bilateral RODs for LFs 01, 05, 07, 10, 11, 12, 15, 18, and 22, and Site FT 41 in FY08.

### MMRP

- There are no MMRP actions scheduled for FY08 or FY09.

<b>FFID:</b>	PA321382050300	<b>Contaminants:</b>	VOCs, POLs, PCBs, heavy metals, explosives, asbestos, SVOCs, propellants
<b>Size:</b>	18,683 acres	<b>Media Affected:</b>	Groundwater, Surface Water, Sediment, Soil
<b>Mission:</b>	Store, maintain, and decommission ammunition; rebuild and store tracked and wheeled vehicles; rebuild, store, and maintain missiles	<b>Funding to Date:</b>	\$ 132.2 million
<b>HRS Score:</b>	34.21 (Southeastern Area); placed on NPL in July 1987; 37.51 (Property Disposal Office); placed on NPL in March 1989	<b>Est. CTC (Comp Year):</b>	\$ 12.7 million (FY 2016)
<b>IAG Status:</b>	IAG signed in February 1989	<b>IRP Sites (Final RIP/RC):</b>	119 (FY2012)
		<b>MMRP Sites (Final RIP/RC):</b>	None
		<b>Five-Year Review Status:</b>	Completed and planned



Franklin County, Pennsylvania

**Progress To Date**

Letterkenny Army Depot (AD) contains various contaminated sites resulting from its ammunition and vehicle maintenance missions. Sites include disposal lagoons and trenches, oil burn pits, an open burning and open detonation area, an explosives washout plant, two scrap yards, landfills, industrial wastewater treatment plant lagoons, and industrial wastewater sewer lines. EPA has placed two areas of Letterkenny on the NPL: the Southeastern (SE) Area in July 1987 and the Property Disposal Office (PDO) in March 1989. Both sites are in the southern part of the installation. The Army and EPA signed an interagency agreement (IAG) in February 1989. The installation has concentrated its remedial efforts on source removal methods, including excavation, low-temperature thermal treatment, and backfilling and capping of soil in the industrial wastewater treatment plant lagoons and the three K-Areas; emergency repairs to leaking industrial wastewater sewers; removal of the PDO fire training pit; and emergency removal of playground soil at the PDO area and of sediment contaminated with polychlorinated biphenyls (PCBs) in the Rocky Spring springhouse. In FY96, the Army established a BRAC cleanup team, the community formed a local redevelopment authority, and the installation established a Restoration Advisory Board (RAB). The Army completed a 5-year review for the SE area in FY02.

To date, the Army has signed eight Records of Decision (RODs) and transferred approximately 761 acres. The cleanup progress at Letterkenny AD for FY03 through FY06 is detailed below.

In FY03, the installation signed a finding of suitability to lease. Groundwater sampling results of Phase III parcels demonstrated that the Phase III parcels were clean. The Phase III finding of suitability to transfer (FOST) was signed. The installation conducted a tour of the installation sites for the RAB. Letterkenny AD was announced as the 2002 winner of the Secretary of the Army's Environmental Award for Environmental Restoration.

In FY04, the Army transferred the Phase III BRAC property. The installation initiated the removal of lead contaminated soil at Old PDO Scrapyard. The installation continued groundwater sampling for PDO Operable Unit (OU) 2.

In FY05, the Army signed a ROD for SE OU 4. The installation submitted RODs for Phase IV and SE OU 10 for regulatory review.

In FY06, Letterkenny AD installed and sampled additional deep wells in SE OUs 3, 6, and 11 to address groundwater plume delineation issues. The Army and EPA signed a ROD and FOST for the Phase IV Parcels. The Army and EPA also signed RODs for the SE OU 10 groundwater and SE OU 2 Industrial Wastewater Sewers and Associated Contaminated Soils. Work began in the Ammo Area on the TNT Washout Plant and SE OU 12 Landfill (LF) 5 (Area G). The installation continued to address landfill issues at SE OU 9 LF 2 (Area J).

**FY07 IRP Progress**

Letterkenny AD continued work with the Ammo Area on the TNT Washout Plant and SE OU 12 LF 5 (Area G). The installation continued to address landfill issues at SE OU 9 LF 2 (Area J). The Army completed all environmental documentation for Phase IV parcels property transfer. The cost of completing environmental restoration has changed significantly due to changes in estimating criteria.

**FY07 MMRP Progress**

The Army has identified no Military Munitions Response Program (MMRP) sites at this installation.

**Plan of Action**

Plan of action items for Letterkenny Army Depot are grouped below according to program category.

**IRP**

- Complete the Phase IV parcels property transfer in FY08.
- Complete SE Area 5-year review in FY08.
- Complete feasibility study (FS), proposed plan, ROD, and FOST for Phase V Parcels in FY08-FY09.
- Complete the focused FS and remedial design phase for the on- and off-post volatile organic compounds (VOC)-contaminated groundwater (SE OUs 3A, 6, and 11) in FY08-09.
- Complete cleanup of the Ammo Area on the TNT Washout Plant and SE OU 12 LF 5 (Area G) in FY08-FY09.
- Continue to address landfill issues at SE OU 9 (Area J) in FY08-FY09.

**MMRP**

There are no MMRP actions scheduled for FY08 or FY09.

<b>FFID:</b>	KY421382050900	<b>Funding to Date:</b>	\$ 28.4 million
<b>Size:</b>	780 acres	<b>Est. CTC (Comp Year):</b>	\$ 3.1 million (FY 2005)
<b>Mission:</b>	Conducted light industrial operations, including paint stripping, metal plating, etching, and anodizing	<b>IRP Sites (Final RIP/RC):</b>	64 (FY2005)
<b>HRS Score:</b>	N/A	<b>MMRP Sites (Final RIP/RC):</b>	None
<b>IAG Status:</b>	None	<b>Five-Year Review Status:</b>	Completed
<b>Contaminants:</b>	VOCs, SVOCs, heavy metals, PCBs, pesticides, herbicides, asbestos		
<b>Media Affected:</b>	Groundwater, Surface Water, Sediment, Soil		



Lexington, Kentucky

**Progress To Date**

In December 1988, the BRAC Commission recommended closure of the Lexington Facility, Lexington-Bluegrass Army Depot (AD). The Army performed a RCRA facility investigation (RFI) from October 1991 to February 1993 and remediated affected areas under an April 1994 RCRA corrective action order. In FY94, the installation formed a BRAC cleanup team. The Army leased the installation to the Commonwealth of Kentucky in FY94 and the installation closed as scheduled in FY95. For transfer, the Army divided Lexington-Bluegrass AD into two parcels: the 211-acre public benefit conveyance and the 564-acre economic development conveyance (EDC). Past studies at Lexington-Bluegrass AD identified Installation Restoration Program (IRP) sites that required further investigation. A RCRA facility assessment identified 30 solid waste management units (SWMUs) and 2 areas of concern (AOCs). Site types include: landfills (new, old, and industrial and sanitary waste disposal), industrial waste lagoons, industrial wastewater treatment plants, and groundwater. EPA and the Kentucky Department of Environmental Protection (KDEP) concurred on the Phase I RFI and corrective measures study (CMS) documents in FY97 by moving 16 of the unresolved SWMUs and AOCs, including groundwater, into Phase II RFI for further evaluation. Sampling data from the initial phase of the RFI showed contaminated groundwater, soil, and sediment at 29 sites. In FY98, Lexington-Bluegrass AD established a Restoration Advisory Board. The installation completed version III of the BRAC cleanup plan in FY99. In FY01, the Army completed the Phase IIB transfer of five buildings and railroad infrastructure without underlying land to the Commonwealth of Kentucky.

The cleanup progress at Lexington-Bluegrass AD for FY03 through FY06 is detailed below.

In FY03, the Army completed the groundwater conceptual model for the public benefit conveyance and EDC. The installation completed statements of basis with state approval for six sites.

In FY04, the installation submitted the final Phase II RFI/CMS for soils and groundwater and the groundwater CMS to EPA and KDEP. The installation submitted the deed of transfer for the public benefit conveyance to the Commonwealth of

Kentucky. The installation submitted the final land use control (LUC)/corrective measures implementation plan to regulators. The Army, the University of Kentucky, KDEP, and EPA collaborated to resolve risk issues concerning the presence of arsenic in surface soils.

In FY05, the installation completed well abandonment and the final Phase II RFI/CMS resulting in a signed agreement order between the Army and KDEP incorporating post-transfer LUC restrictions. A public comment period on all interim remedial actions conducted over several years at Lexington-Bluegrass AD was completed and KDEP approved the interim actions as completed final actions.

In FY06, Lexington-Bluegrass AD completed and submitted the environmental covenant and LUCs between the Army and KDEP. The installation also submitted the draft EDC and public benefit conveyance deed for transfer to the Commonwealth of Kentucky for review. The Army continued groundwater and landfill monitoring, and identified final monitoring requirements.

**FY07 IRP Progress**

LBAD completed the transfer of the EDC and public benefit conveyance to the Commonwealth of Kentucky. The Army continued groundwater and landfill monitoring. All LUCs were in compliance.

**FY07 MMRP Progress**

The Army has identified no Military Munitions Response Program (MMRP) sites at this installation.

**Plan of Action**

Plan of action items for Lexington Facility, Lexington-Blue Grass Army Depot are grouped below according to program category.

**IRP**

- Continue monitoring groundwater and landfills in FY08.
- Perform annual LUC inspections in FY08.

**MMRP**

There are no MMRP actions scheduled for FY08 or FY09.

<b>FFID:</b>	TX621382183100	<b>Est. CTC (Comp Year):</b>	\$ 7.5 million (FY 2037)
<b>Size:</b>	15,546 acres	<b>IRP Sites (Final RIP/RC):</b>	57 (FY2006)
<b>Mission:</b>	Load, assemble, and pack ammunition	<b>MMRP Sites (Final RIP/RC):</b>	None
<b>HRS Score:</b>	31.85; placed on NPL in July 1987	<b>Five-Year Review Status:</b>	Completed and planned
<b>IAG Status:</b>	IAG signed in September 1990		
<b>Contaminants:</b>	VOCs, petroleum, heavy metals, explosives		
<b>Media Affected:</b>	Groundwater and Soil		
<b>Funding to Date:</b>	\$ 27.4 million		



Texarkana, Texas

**Progress To Date**

In May 2005, the BRAC Commission recommended closure of Lone Star Army Ammunition Plant (AAP). Lone Star AAP loads, assembles, and packs munitions. From 1943 to 1944 the Old Demolition Area (ODA), Site 17, was used to destroy faulty or nonstandard explosives. Environmental studies revealed explosives and metal contamination in the ODA. EPA placed the ODA on the NPL in 1987. RCRA sites investigated include surface impoundments, landfills, fuel storage areas, and load lines. Investigations revealed soil contamination with solvents, metals, and explosives at some sites and groundwater contamination at one site. The Army and EPA signed an interagency agreement (IAG) in 1990. In FY01 and FY06, the installation solicited interest in forming a Restoration Advisory Board (RAB), but interest was insufficient. The Army completed a 5-year review in FY06.

The ODA is the only CERCLA site at the installation. One Record of Decision has been signed to date. The cleanup progress at Lone Star AAP for FY03 through FY06 is detailed below.

In FY03, the installation continued groundwater monitoring at Sites 2, 17, and 34.

In FY04, the installation continued long-term management (LTM) at Sites 2, 17, 24, 33, and 34. Remedial investigations (RIs) began at Sites 6, 9, and 101. The installation completed the remedial design and began the soil removal action at Site 20. The Army received state approval of no further action (NFA) for Sites 78, 79, and 80.

In FY05, Lone Star AAP completed the RI at Site 101 with NFA. The installation initiated LTM at Site 16 and continued LTM at Sites 2, 17, 24, 33, and 34. Remedial actions (RAs) were completed at Sites 9, 16, and 20. The installation initiated RA at Site 6.

In FY06, Lone Star AAP performed a 5-year review of the ODA, which EPA approved. In response to the BRAC Commission's recommendation to close Lone Star AAP, the Army initiated an environmental condition of property (ECP) report and a CERFA

report. The installation solicited community interest for a RAB; however, no interest was shown.

**FY07 IRP Progress**

Lone Star AAP submitted the final ECP and CERFA reports to the Texas Commission on Environmental Quality. The Army completed a final RA (soil removal) and an RA report for Site 6. The installation constructed a restrictive fence; submitted the RA report; and plugged and abandoned the five monitor wells at Site 24. The Army completed a metes and bounds survey for deed recordation purposes at Site 16. The installation continued groundwater monitoring at Sites 2, 17, 33, and 34. A total of 17 monitor wells were also plugged and abandoned at Sites 6, 17, and 101. The Army continued LTM at Sites 2, 16, 17, 24, 33, and 34. The installation continued RA operations at Site 2.

Technical issues delayed performing the groundwater modeling study at Site 2.

**FY07 MMRP Progress**

The Army conducted no Military Munitions Response Program (MMRP) actions at this installation.

**Plan of Action**

Plan of action items for Lone Star Army Ammunition Plant are grouped below according to program category.

**IRP**

- Continue groundwater monitoring at Sites 2 and 34 in FY08.
- Continue groundwater and surface water monitoring at Sites 17 and 33 in FY08.
- Complete groundwater modeling study at Site 2 in FY08.
- Continue LTM at Sites 2, 9, 16, 17, 24, 33, and 34 in FY08.
- Continue RA operations at Site 2 in FY08.

**MMRP**

There are no MMRP actions scheduled for FY08 or FY09.

**FFID:** CA917002727200, CA917002755400, CA917002319000, and CA917002726700

**Size:** 1,563 acres

**Mission:** Provided logistics support; performed work in connection with construction, alteration, dry docking, and outfitting of ships and craft assigned; performed manufacturing, research, development, and test work

**HRS Score:** N/A

**IAG Status:** None

**Contaminants:** Solvents, acids, blasting grit, paints, heavy metals, industrial liquid wastes, VOCs, SVOCs

**Media Affected:** Groundwater, Surface Water, Sediment, Soil

**Funding to Date:** \$ 63.4 million

**Est. CTC (Comp Year):** \$ 7.6 million (FY 2015)

**IRP Sites (Final RIP/RC):** 26 (FY2014)

**MMRP Sites (Final RIP/RC):** None

**Five-Year Review Status:** Completed and planned



Long Beach, California

**Progress To Date**

The Long Beach Naval Complex (NC) consists of the Long Beach Naval Shipyard (NSY), Naval Station (NS) Long Beach, and the Long Beach Naval Hospital (NAVHOSP). The Long Beach NC provided logistics support, construction, alteration, dry docking, and outfitting of ships and craft. The BRAC Commission recommended closure of the NAVHOSP, the NS, and associated housing areas in FY91; closure occurred in FY94. Closure of the NSY and associated housing areas was recommended in FY93 and occurred in FY97. NSY and NS operations that contributed to contamination include ship and vehicle repair and maintenance, utility maintenance and operation, support shops, storage of petroleum products and hazardous materials, laundry and dry cleaning, steam plant operations, and air compressor operations. Portions of housing areas associated with the NSY were used to dispose of ship wastes, drilling mud, and construction debris. In FY94, the Navy formed a BRAC Cleanup Team (BCT), which completed a BRAC cleanup plan. The BCT, composed of the Navy and regulators meets every other month. In addition, the Joint NS and NSY technical review committee was converted to a Restoration Advisory Board (RAB). The RAB meets annually. The Navy completed a 5-year review in FY05.

To date, the installation has completed Records of Decision (RODs) for Sites 1, 2, 3, 4, 5, 6A, 7 (sediments), 8, 10, 11, 12, and 13. In FY02, the Navy completed an inventory of all Military Munitions Response Program (MMRP) sites. No MMRP sites were identified at this installation. The cleanup progress at Long Beach NC for FY03 through FY06 is detailed below.

In FY03, remedial assessment operations at Sites 1, 2, and 14 continued on schedule. Significant progress was made on the ROD for Sites 8 and 10; Site 11 was removed from the ROD in order to facilitate property transfer issues.

In FY04, the installation began long-term management (LTM) operations at Sites 1, 2, and 14, but did not meet all remedial action (RA) objectives; additional monitoring was required. The installation completed the Site 7 feasibility studies (FSs), Sites 8 and 10 ROD/remedial action plan (RAP); and Sites 9, 12, and 13 proposed plans (PPs) on schedule. The installation initiated a PP for Site 7 and RODs for Sites 7, 9, 11, 12, and 13. The draft 5-year review for Sites 1-6A, 14, and Palos Verdes

Operable Unit (OU) 1 was completed. Drafts of the Sites 9, 12, and 13 PPs were completed. Regulatory agencies requested RODs for Site 14, Palos Verdes OU 1, and all areas of concern (AOCs) that require institutional controls (ICs). The RAB met quarterly and the BCT met monthly. Both the RAB Navy and community co-chair attended the Navy-hosted RAB workshop in July 2004 and the Navy solicited new RAB membership.

In FY05, Long Beach NC initiated a radiological investigation work plan for Sites 1 and 2 and conducted LTM at Sites 1, 2, 11, 12, 13, 14, and Palos Verdes Housing OU 1. The Navy also finalized the 5-year review for Sites 1-6A, 14, and Palos Verdes OU 1. In addition, the Navy drafted the Site 7 FS addendum and finalized the Site 9 ROD/RAP. The Navy also drafted the remedial design (RD)/RA work plans for Sites 8, 9, and 10, and completed the Site 16 expanded site inspection and obtained clean closure. Lastly, the Navy conducted pre-closure groundwater sampling for Buildings 101 and 118 and initiated a screening level ecological risk assessment (SLERA) for Palos Verdes OU 1.

In FY06, Long Beach NC completed site closure for Buildings 101 and 118. The Navy finalized RODs for Sites 11, 12, and 13. The Navy also finalized the FS addendum and issued a draft final PP for Site 7. LTM operations continued at Sites 8, 9, 10, 11, 12, 13, and 14. The installation also conducted groundwater monitoring at Site 14. The decision was made to combine the RD/RA work plan for Sites 8, 9, and 10 and the RD/RA work plan for Sites 11, 12, and 13 into one work plan. The installation began development of a strategy to achieve site closure for radiological concerns at Sites 1 and 2. A SLERA was issued and LTM was performed for Palos Verdes OU 1. Long Beach NC began an evaluation on the status of AOCs on Navy-owned property. The Navy met with regulators and determined that no further action (NFA) was required at Site 6B. The BCT met quarterly and the RAB met semi annually.

**FY07 IRP Progress**

Long Beach NC completed the technical memorandum detailing the closure strategy for radiological issues, and finalized the RA completion report for soil and groundwater at Sites 1 and 2. The Navy signed the Site 7 ROD for sediments in the Long Beach Harbor. The installation finalized the groundwater RD/RA work plan for Sites 8, 9, 10, 11, 12, and

13, and continued LTM at these sites and Site 14. The Navy received regulatory concurrence for NFA for groundwater Site 10. The Navy completed groundwater monitoring, continued LTM, and finalized the SLERA at Palos Verdes OU 1. The installation worked with regulatory agencies to minimize institutional control (IC) monitoring at OU 1 and will revise the site management and IC plan. Long Beach NC completed the closure status evaluation for 78 AOCs. Additionally, the installation completed a groundwater optimization study for Site 14. The cost of completing environmental restoration has changed significantly due to changes in estimating criteria.

Technical issues delayed site closure for Sites 8, 9, 11, 12, 13, and 14.

The BCT met every other month, and the RAB met annually.

**FY07 MMRP Progress**

The Navy has identified no MMRP sites at this installation.

**Plan of Action**

Plan of action items for Long Beach Naval Complex are grouped below according to program category.

**IRP**

- Develop work plans and initiate fieldwork at Sites 1 and 2 in FY08.
- Continue LTM to achieve closure at Sites 8, 9, 11, 12, 13, and 14 in FY08.
- Update site management and IC plan, and continue LTM at Palos Verdes OU 1 in FY08.
- Prepare site closeout documentation for 15 AOCs in FY08.
- Implement recommendations from Site 14 optimization study, and continue LTM in FY08.
- Complete basewide IC ROD in FY08.

**MMRP**

There are no MMRP actions scheduled for FY08 or FY09.

<b>FFID:</b>	TX621382052900	<b>Funding to Date:</b>	\$ 101.7 million
<b>Size:</b>	8,416 acres	<b>Est. CTC (Comp Year):</b>	\$ 16.4 million (FY 2015)
<b>Mission:</b>	Loaded, assembled, and packed pyrotechnic and illuminating signal munitions	<b>IRP Sites (Final RIP/RC):</b>	48 (FY2009)
<b>HRS Score:</b>	39.83; placed on NPL in August 1990	<b>MMRP Sites (Final RIP/RC):</b>	3 (FY2009)
<b>IAG Status:</b>	IAG signed in October 1991	<b>Five-Year Review Status:</b>	Completed
<b>Contaminants:</b>	Heavy metals, VOCs, perchlorate, explosives, SVOCs, propellants		
<b>Media Affected:</b>	Groundwater, Surface Water, Sediment, Soil		



Karnack, Texas

**Progress To Date**

Longhorn Army Ammunition Plant (AAP) manufactured pyrotechnic and illuminating signal munitions and solid-propellant rocket motors. EPA placed the installation on the NPL in August 1990. The Army and EPA signed an interagency agreement (IAG) in October 1991. Identified sites included storage areas, landfills, open burning grounds, industrial areas, burial pits, sumps, and wastewater treatment plants. Longhorn AAP became inactive and excess to the Army's needs in July 1997. The Army awarded a technical assistance for public participation contract to determine the effects of on-post contamination on surface water entering Caddo Lake in FY99. The Army completed a 5-year review in FY02 for Sites 12, 16, 18, and 24. The installation updated the community relations plan (CRP) in FY03. In FY04, the installation formed a Restoration Advisory Board (RAB).

Environmental studies identified 50 sites at the plant, 18 of which are eligible for the Installation Restoration Program (IRP). The installation divided the sites into five groups. Two Records of Decision (RODs) and two No Further Action (NFA) RODs have been completed to date. The Army has transferred approximately 7,400 acres to date. In FY02, the Army completed an inventory of all Military Munitions Response Program (MMRP) sites. The cleanup progress at Longhorn AAP for FY03 through FY06 is detailed below.

In FY03, the Army was the recipient of over \$1 million of funded grant work from the Environmental Security Technology Certification Program and the National Institutes of Health for field pilot studies designed to treat groundwater contaminated with perchlorate. The Army completed a successful feasibility study (FS) for in situ treatment of perchlorate in soils. The installation completed work plans for the background study and ecological risk assessment (ERA). The Army held a public meeting, compiled community surveys, and updated the CRP.

In FY04, the installation conducted a transition and partnering meeting with regulators, the U.S. Fish and Wildlife Service (FWS), and other Army personnel in anticipation of the change in installation managers from Army Material Command to the Army Headquarters BRAC Division, and a transfer meeting with the FWS, the General Services Administration, and others to facilitate property transfer. The installation prepared an

environmental condition of property (ECP) report and participated in the development of an overarching transfer memorandum of agreement between FWS and the Army. In two separate actions, the Army transferred a total of approximately 5,800 acres to FWS as part of the Caddo Lake National Wildlife Refuge. The installation prepared a second ECP report to support the FY05 transfer of a 125-acre tract of CERFA Category 1 land to the FWS. The installation reviewed the environmental site assessment/Environmental Baseline Survey for the Production Area. The installation achieved response complete at LHAAP 045 without a remedial investigation and FS. The installation initiated site inspections for three MMRP sites and reviewed historical record reports and site conceptual models for LHAAP 001 R (South Test Area), 002 R (Static Test Area), and 003 R (Ground Signal Test Area). The installation held meetings with regulators and other stakeholders to familiarize them with the MMRP process and to generate input and approval. The installation conducted a site tour for regulators and stakeholders. The installation provided unexploded ordnance, and munitions and explosives of concern recognition training to regulators, stakeholders, and interested public. The installation established a RAB.

In FY05, the installation awarded a performance-based contract (PBC) to address most of the remaining environmental restoration work. The installation completed two FSs for LHAAP 12 and 67. The installation completed the installationwide ERA through Step 3 and submitted the report to the regulators. The ERA is now part of the PBC performance work statement. Additional sampling and evaluation at LHAAP 32 recommended NFA. The installation completed MMRP site inspections for three sites and initiated an engineering evaluation and cost analysis (EE/CA) for each of the sites. The RAB ratified its charter, elected a co-chair, and held quarterly meetings.

In FY06, the installation completed the FS for LHAAP 37 and drafted the proposed plans for LHAAP 8, 32, 37, 48, 53, and 67. Longhorn AAP signed the ROD for LHAAP 12 and prepared the remedial design with land use controls. The Army transferred 288 acres to FWS. The installation completed the fieldwork for the three EE/CAs for three MMRP sites.

**FY07 IRP Progress**

The installation transferred 639 acres to FWS. In addition, the

remedial design addendum, ECP and operating properly and successfully action for LHAAP 12 were finalized; and the 51-acre tract including LHAAP 12 was offered to FWS for transfer. The Army's proposed plans for Sites 8, 32, 37, 48, 53, and 67 were approved by the regulators. Monitored natural attenuation evaluation and modeling was performed and documented for several sites. The installation received regulator approval for the Optimization Plan for the Groundwater Treatment Plant (Sites 18 and 24). The Army conducted additional investigations/data gaps at six PBC sites to support FSS.

Regulatory issues delayed the installation's work on RODs for LHAAP 8, 32, 37, 48, 53, and 67. Regulatory issues delayed the completion of the 5-year review for Sites 12, 16, 18, and 24; and also completion of the installationwide ERA.

**FY07 MMRP Progress**

The installation completed the EE/CA for three MMRP sites and EPA concurred with the document. The recommended removal actions were presented in an action memorandum that is awaiting signature.

**Plan of Action**

Plan of action items for Longhorn Army Ammunition Plant are grouped below according to program category.

**IRP**

- Complete the baseline ERA in FY08.
- Complete RODs for six sites under the Total Environmental Restoration Contract; and 15 sites under the PBC in FY08.
- Complete FSs for eight sites under the PBC in FY08.
- Complete 5-year reviews of the interim remedies at Sites 16, 17, 18, and 24; and the final remedy at Site 12 in FY08.

**MMRP**

- Conduct removal actions at two MMRP Sites in FY08.

<b>FFID:</b>	ME157002452200	<b>Funding to Date:</b>	\$ 137.2 million
<b>Size:</b>	9,472 acres	<b>Est. CTC (Comp Year):</b>	\$ 18.6 million (FY 2301)
<b>Mission:</b>	Support B-52 bombers and KC-135 tankers	<b>IRP Sites (Final RIP/RC):</b>	64 (FY2001)
<b>HRS Score:</b>	34.49; placed on NPL in February 1990	<b>MMRP Sites (Final RIP/RC):</b>	8 (FY1999)
<b>IAG Status:</b>	FFA signed in April 1991; revision signed in 1994	<b>Five-Year Review Status:</b>	Completed and planned
<b>Contaminants:</b>	VOCs, POLs, spent solvents, PCBs, pesticides, heavy metals, SVOCs, explosives, propellants		
<b>Media Affected:</b>	Groundwater, Surface Water, Sediment, Soil		



Limestone, Maine

**Progress To Date**

Loring Air Force Base (AFB) was established in 1952 to support bomber and tanker aircraft operations. Environmental studies began at the base in FY84. EPA placed the installation on the NPL in February 1990 and the Air Force signed a federal facility agreement (FFA) in April 1991, which was revised in 1994. In July 1991, the BRAC Commission recommended closure of the installation, and it closed in September 1994. The flightline and nose dock areas, where industrial shops and maintenance hangars were located, are the primary areas where wastes were released into soil and groundwater. Sites identified include spill areas, landfills, fire training areas, underground storage tanks, aboveground storage tanks, and low-level radioactive waste areas. Interim remedial actions (RAs) were initiated in FY93 and included removal of free product at three sites, source removal at two sites, and treatability studies of bioventing and solvent extraction. In FY94, an Environmental Baseline Survey was completed. The installation formed both a BRAC cleanup team (BCT) and a Restoration Advisory Board (RAB) in FY94. In FY98, the BCT updated and published the BRAC cleanup plan. Five-year reviews were completed in FY00 and FY05.

Sites at Loring AFB are grouped into 13 operable units. To date, 12 Records of Decision have been signed, with the last 2 signed in FY99. The Air Force has transferred all property to the Loring Development Authority (LDA). In FY04, the Air Force conducted an inventory of Military Munitions Response Program (MMRP) sites. The cleanup progress at Loring AFB for FY03 through FY06 is detailed below.

In FY03, the installation submitted the institutional control management plan and received comments from the Maine Department of Environmental Protection. Groundwater monitoring and soil cleanup systems operations continued. A finding of suitability to transfer (FOST) was coordinated for the 200-mile pipeline from Loring AFB to Searsport.

In FY04, the installation completed the operating properly and successfully determinations with EPA concurrence for all sites at Loring AFB. Treatment systems for soil cleanups continued to make progress towards remedial goals, and groundwater monitoring remedies remained protective of human health and the environment. The installation submitted property transfer

documents for concurrence. The Air Force conducted an inventory of MMRP sites. MMRP sites were identified at this installation.

In FY05, the installation completed the FOST for all remaining property, which was transferred to the LDA. Operations and monitoring continued for all remaining cleanup systems. The installation completed the second 5-year review. RAB and BCT activities continued. The Air Force began evaluating requirements at MMRP sites at this installation.

In FY06, the installation completed the RA at the Base Laundry. The Air Force continued to operate, monitor, and optimize remedies across the installation. The installation initiated the Fuel Tank Farm RA by excavating and land farming approximating 15,000 cubic yards of soil. The Air Force completed explosives safety certification at all identified sites and continued to evaluate appropriate administrative requirements.

**FY07 IRP Progress**

Loring AFB continued restoration of the Fuels Tank Farm by excavating and landfarming approximately 12,000 cubic yards of soil. The installation completed RA of the Fuels Tank Farm, although new contamination was identified. Loring AFB continued to operate and monitor remedies and institutional control compliance across the installation.

**FY07 MMRP Progress**

Administrative issues delayed completion of required closure actions for identified MMRP sites.

**Plan of Action**

Plan of action items for Loring Air Force Base are grouped below according to program category.

**IRP**

- Complete petroleum cleanup at nose dock area by excavating and landfarming approximately 30,000 cubic yards of soil in FY08.
- Implement optimization of former engine jet test cell remedy in FY08.
- Assess newly identified contamination at Fuels Tank Farm in FY08.

**MMRP**

- Complete any required administrative closure actions for MMRP sites in FY08.

<b>FFID:</b>	LA621382053300	<b>Funding to Date:</b>	\$ 60.2 million
<b>Size:</b>	14,974 acres	<b>Est. CTC (Comp Year):</b>	\$ 2.3 million (FY 2011)
<b>Mission:</b>	Manufacture ammunition metal parts and maintain ammunition production facilities	<b>IRP Sites (Final RIP/RC):</b>	10 (FY2006)
<b>HRS Score:</b>	30.26; placed on NPL in March 1989	<b>MMRP Sites (Final RIP/RC):</b>	3 (FY2011)
<b>IAG Status:</b>	IAG signed in 1989	<b>Five-Year Review Status:</b>	Completed and planned
<b>Contaminants:</b>	TNT, RDX, HMX, oils, grease, degreasers, phosphates, solvents, metal plating sludges, acids, fly ash		
<b>Media Affected:</b>	Groundwater, Surface Water, Sediment, Soil		



Doyline, Louisiana

## Progress To Date

The Louisiana Army Ammunition Plant (AAP) manufactures ammunition parts for the Army. EPA placed the installation on the NPL in March 1989 and signed an interagency agreement (IAG) with the Army later that year. Sites identified at the installation include lagoons, burning grounds, and landfills contaminated with explosives and plating wastes. Studies identified no off-site contamination; however, groundwater monitoring wells at the installation did reveal contamination with explosive compounds, such as TNT, RDX, and HMX. The potential for off-site migration of contaminants required groundwater monitoring beyond the northern and southern boundaries of the installation; the groundwater monitoring still continues. The Army conducted 5-year reviews for the interim remedial action at the Area P lagoons; one in FY94 that confirmed that the source of the contamination had been removed and another in FY00 that received EPA approval. The Army also completed a 5-year review in FY06.

The Army identified seven sites during a preliminary assessment and site inspection (SI) in FY78 and 13 additional sites in FY93 and FY94 (the Y-line etching facility, nine load-assemble-pack lines, and three test areas). Between FY89 and FY90, the installation incinerated almost 102,000 tons of explosives-contaminated soil and treated more than 53 million gallons of contaminated water. The Army identified two additional Military Munitions Response Program (MMRP) sites in FY03. The installation completed one Record of Decision (ROD) and one No Further Action ROD. The cleanup progress at Louisiana AAP for FY03 through FY06 is detailed below.

In FY03, the installation completed a draft remedial investigation (RI) for Sites 09 (nine load lines and three test areas) and 10 (groundwater for the entire installation). The installation also completed a human health assessment and an ecological risk assessment for these sites. The Army completed the MMRP closed, transferred, and transferring ranges and sites inventory that identified two MMRP sites at this installation.

In FY04, the Army awarded a performance-based contract (PBC) for remaining environmental restoration sites. The installation completed the MMRP SI.

In FY05, the installation completed the RI for Sites 09 and 10. In accordance with congressional directive, the Army transferred the installation to the Louisiana Army National Guard.

In FY06, the Army completed a 5-year review. The installation completed a draft groundwater feasibility study (FS) and ROD for soils Site 09. Louisiana AAP conducted public meetings to discuss proposed plans for soils and groundwater treatment. Louisiana AAP conducted a stakeholder briefing on the MMRP SI results.

## FY07 IRP Progress

Louisiana AAP completed a FS and achieved remedy-in-place and response complete for soils and groundwater. The cost of completing environmental restoration has changed significantly due to technical issues.

Technical issues delayed completion of the PBC and long-term management and long-term operation (LTM/LTO). Regulatory issues delayed completion of the ROD.

## FY07 MMRP Progress

Regulatory issues delayed the RI/FS for three munitions response sites.

## Plan of Action

Plan of action items for Louisiana Army Ammunition Plant are grouped below according to program category.

### IRP

- Complete PBC and LTM/LTO in FY08.
- Receive ROD approval in FY08.

### MMRP

- Complete RI/FS in FY08.

<b>FFID:</b>	KY417002417500	<b>Media Affected:</b>	Groundwater, Sediment, Soil
<b>Size:</b>	142 acres	<b>Funding to Date:</b>	\$ 19.1 million
<b>Mission:</b>	Overhauled repair, and manufacture weapon systems and components used on naval vessels	<b>Est. CTC (Comp Year):</b>	\$ 0.6 million (FY 2006)
<b>HRS Score:</b>	N/A	<b>IRP Sites (Final RIP/RC):</b>	9 (FY2006)
<b>IAG Status:</b>	None	<b>MMRP Sites (Final RIP/RC):</b>	None
<b>Contaminants:</b>	Chlorinated and nonchlorinated solvents, explosives, heavy metals, propellants, paint, pesticides, POLs, plating wastes, PCBs, VOCs, SVOCs, asbestos	<b>Five-Year Review Status:</b>	Planned



Louisville, Kentucky

**Progress To Date**

In July 1995, the BRAC Commission recommended closure of the Louisville Naval Surface Warfare Center (NSWC). Operations contributing to contamination at this installation include machining, welding, draining of lubricating fluids, painting, electroplating, degreasing and cleaning of metals, and paint stripping. Site types include waste storage and disposal areas, manufacturing operations and disposal areas, and other miscellaneous support and maintenance activity areas. Contaminants have migrated into nearby soil, sediment, and groundwater. The Restoration Advisory Board (RAB) adjourned in FY04. The restoration program is conducted by a BRAC cleanup team (BCT) partnering effort with the Navy, EPA Region 4, and the Kentucky Department of Environmental Protection (KDEP). In FY00, all draft RCRA facility investigation reports were completed.

In 1996, 85 percent of the property was leased to the Louisville/Jefferson County Redevelopment Authority as the Navy's first private-in-place installation. Property was conveyed via early transfer in FY04. In FY02, the Navy completed an inventory of all Military Munitions Response Program (MMRP) sites. The cleanup progress at Louisville NSWC for FY03 through FY06 is detailed below.

In FY03, efforts to complete the early property transfer continued.

In FY04, the installation completed all statements of basis and submitted a RCRA permit modification incorporating all selected corrective measures for all sites. The installation submitted the permit modifications to state regulators for approval. Louisville NSWC also completed the early transfer to the Louisville/Jefferson County Redevelopment Authority, and initiated long-term management (LTM) of natural attenuation (NA) and land use controls (LUC) for all sites. The RAB voted to adjourn, with plans to reconvene if necessary, as all remedial decisions have been made.

In FY05, Louisville NSWC completed the RCRA Part B permit modification. This modification incorporated the final corrective action for all sites at Louisville NSWC which resulted in LTM of NA and monitoring of LUCs as remedies. The Navy continued LTM of NA and monitoring of LUCs continued.

In FY06, the Navy continued LTM of NA and LUC monitoring for all sites at Louisville NSWC.

**FY07 IRP Progress**

The Navy renewed the RCRA Corrective Action Permit with KDEP. The cost of completing environmental restoration has changed significantly due to changes in estimating criteria.

**FY07 MMRP Progress**

The Navy has identified no MMRP sites at this installation.

**Plan of Action**

Plan of action items for Louisville Naval Surface Warfare Center are grouped below according to program category.

**IRP**

- Initiate planning for the 5-year review in FY08.
- Continue LTM of NA in FY08-FY09.
- Continue LUC monitoring in FY08-FY09.

**MMRP**

There are no MMRP actions scheduled for FY08 or FY09.

<b>FFID:</b>	CO857002413000	<b>Funding to Date:</b>	\$ 96.2 million
<b>Size:</b>	1,866 acres	<b>Est. CTC (Comp Year):</b>	\$ 6.0 million (FY 2012)
<b>Mission:</b>	Served as Air Force technical training center	<b>IRP Sites (Final RIP/RC):</b>	20 (FY2008)
<b>HRS Score:</b>	N/A	<b>MMRP Sites (Final RIP/RC):</b>	5 (FY2007)
<b>IAG Status:</b>	IAG under negotiation	<b>Five-Year Review Status:</b>	Underway and planned
<b>Contaminants:</b>	General refuse, fly ash, coal, metals, fuels, VOCs, solvents, TCE, petroleum hydrocarbons, SVOCs, waste oil		
<b>Media Affected:</b>	Groundwater, Surface Water, Sediment, Soil		



Denver, Colorado

**Progress To Date**

Lowry Air Force Base (AFB) supported the 3400 Technical Training Wing. In 1991, the BRAC Commission recommended closure of all but 108 of the 1,866 acres at Lowry (the Air Force retained 80 acres, as an additional 28 acres were subsequently closed). The base closed in September 1994. The Defense Finance and Accounting Service and the Air Force Reserve Personnel Center remain at Lowry in cantonment areas, but will be closed under BRAC 2005. Environmental sites at the former base include fire training areas, landfills, a fly ash disposal area, coal storage yards, and underground storage tanks. In FY94, an Environmental Baseline Survey was completed. The installation's Restoration Advisory Board (RAB) began receiving technical assistance for public participation funding in FY99.

The Air Force conducted an inventory of Military Munitions Response Program (MMRP) sites in FY04. The cleanup progress at the former Lowry AFB for FY03 through FY06 is detailed below.

In FY03, remedial actions (RAs) were completed for soil contamination at two newly-discovered tank sites: Building 1432 and the Fifth and Trenton site. Two investigations and RAs were completed for contaminated soil sites. An RA and no further action (NFA) documentation were completed for the skeet range.

In FY04, a polychlorinated biphenyls (PCBs) removal action at Building 402 and a basewide RCRA facility assessment (RFA) were conducted. Monitoring for radioactive parameters at the landfill progressed on schedule. Investigations and RAs at contaminated soil sites were completed. Groundwater monitoring was conducted at Building 606, and payments continued for the FY02 privatization agreement. The Air Force conducted an inventory of MMRP sites. MMRP sites were identified at this installation.

In FY05, the installation completed the final RFA report and the PCBs removal action at Building 402. Quarterly monitoring for radioactive parameters at the landfill continued. A previously abandoned septic tank near Dayton Street was investigated and removed. In addition, the installation completed several removal actions involving asbestos-containing materials discovered in soil. The Air Force incorporated RAs at remaining

sites and new RFA areas into comprehensive agreement negotiations to privatize the remaining environmental cleanup and property transfer actions.

In FY06, the installation signed a comprehensive agreement to privatize the remaining Installation Restoration Program (IRP) and MMRP actions. Lowry AFB received concurrence from regulatory agencies and NFA documentation for establishing a foreign trade zone after soil removal, confirmation sampling, and site restoration are complete. The Air Force also received regulatory approval on the final reports for the landfill cap construction. The installation completed the abandonment of two deep wells. Lowry AFB completed the follow-up investigations at suspected waste area PAA 2 and received NFA. The installation continued long-term management (LTM) at the landfill and Building 606, investigation at Building 1432, abatement of asbestos in soil at various areas, and payments for the privatization cooperative agreements. The installation initiated the 5-year review. Lowry AFB completed Phase I and initiated Phase II of in situ chemical oxidation treatment of chlorinated solvents in groundwater and shut down two active remediation systems at Operable Unit (OU) 5. The installation completed a risk assessment simulation study to evaluate the human health risk associated with asbestos in soil at Filing 28. The installation submitted the final report on quarterly monitoring for radioactive parameters at the landfill zone to regulators. The installation performed clearance and soil excavation at the Outdoor Firing Range and the site requires NFA. The RAB continued to meet on a monthly basis.

**FY07 IRP Progress**

Lowry AFB continued monitoring and treatment of chlorinated solvents in groundwater, the investigation at Building 1432, and LTM at the landfill and Building 606. The Air Force initiated the first 5-year review, and RA and NFA documentation for Buildings 777 and 898 was completed. The Air Force continued the privatization payments to the local redevelopment authority, and sampled and abated asbestos in soils in the Filing 28 area and Parcel T.

**FY07 MMRP Progress**

Lowry AFB continued to evaluate requirements at MMRP sites. The outdoor firing range was closed.

**Plan of Action**

Plan of action items for Lowry Air Force Base are grouped below according to program category.

**IRP**

- Complete 5-year review in FY08.
- Complete final privatization payment in FY08.
- Continue regulator and RAB involvement as needed in FY08.
- Continue assessment and remediation of asbestos in soils in FY08-FY09.
- Continue monitoring and maintenance of the landfill and groundwater monitoring at Building 606 in FY08-FY09.
- Continue groundwater remediation at OU 5 in FY08-FY09.

**MMRP**

- Continue to evaluate requirements at MMRP sites in FY08.
- Obtain closure for all MMRP sites in FY08-FY09.

<b>FFID:</b>	CA957212452700	<b>Est. CTC (Comp Year):</b>	\$ 30.2 million (FY 2037)
<b>Size:</b>	6,606 acres	<b>IRP Sites (Final RIP/RC):</b>	48 (FY2010)
<b>Mission:</b>	Maintain, repair, and refuel aircraft	<b>MMRP Sites (Final RIP/RC):</b>	3 (FY2008)
<b>HRS Score:</b>	31.94; placed on NPL in November 1989	<b>Five-Year Review Status:</b>	Completed and planned
<b>IAG Status:</b>	FFA signed in September 1990		
<b>Contaminants:</b>	VOCs, POLs, PCBs, SVOCs, metals, explosives, propellants		
<b>Media Affected:</b>	Groundwater, Surface Water, Sediment, Soil		
<b>Funding to Date:</b>	\$ 152.2 million		



Riverside, California

## Progress To Date

March Air Force Base (AFB) was established as an Army Air Service airfield in 1918 and became an Air Force installation in 1948. In July 1993, the BRAC Commission recommended realignment of the installation. Following realignment in April 1996, approximately 2,074 acres were retained by the Air Force as March Air Reserve Base (ARB), and several smaller parcels totaling 95 acres were retained by the Army and Navy. The remaining 4,439 acres have been transferred to the local redevelopment authority and federal and local government agencies. The 2005 BRAC Commission recommended the installation for further realignment. March AFB was placed on the NPL in November 1989, and the Air Force signed a federal facility agreement (FFA) in September 1990. Investigations have identified fire training areas, inactive landfills, underground storage tanks, an engine test cell, sludge drying beds at a sewage treatment plant, and various spill sites. The March AFB environmental restoration program is funded under the Environmental Restoration Account for sites on March ARB property and under the BRAC Account for sites on the remaining property. In FY99, a memorandum of agreement was signed between the Air Force Reserve Command (AFRC) and the Air Force Base Conversion Agency, which was renamed the Air Force Real Property Agency (AFRPA), for sharing environmental responsibility. In FY94, a base technical review committee was converted to a Restoration Advisory Board (RAB) to support cleanup efforts. The first 5-year review was completed in FY03.

Environmental studies have identified Installation Restoration Program (IRP) and Military Munitions Response Program (MMRP) sites at March AFB. IRP sites have been grouped into three operable units (OUs): OUs 1, 2, and 4. Records of Decision (RODs) have been signed for 25 AFRC IRP sites and 21 BRAC IRP sites. The cleanup progress at March AFB for FY03 through FY06 is detailed below.

In FY03, the Air Force closed the groundwater portion of Site 43, continued remedial action operation (RA-O) activities at the landfills and Building 550, and continued the groundwater monitoring program. Mercury characterizations in the sanitary sewer and research were conducted, and it was determined that an RA was not required. A pilot study at Building 2307 was completed, which enabled its scheduled demolition and

replacement with a new hangar. The Air Force completed the first 5-year review.

In FY04, the Air Force finalized the OU 2 ROD and the OU 4 (formally known as the basewide OU) remedial investigation/feasibility study (RI/FS) and proposed plan (PP). Fieldwork for the Weapon Storage Area (WSA) preliminary assessment/site inspection (PA/SI) was completed and the draft report was prepared. RA-O activities at the landfills and Building 550 continued, as did the groundwater monitoring program. The RA plan for Sites 18 and 33 was approved. March ARB replaced the thermal oxidizer for the Site 2 soil vapor extraction (SVE) system with a carbon absorption unit. The thermal oxidizer was moved to Site 27, and an SVE system was started. The Air Force conducted an inventory of MMRP sites. MMRP sites were identified on the BRAC portion of the installation.

In FY05, the Air Force finalized the OU 4 ROD and the ROD for OU 2 Sites 1, 11, 37, and 39. The AFRC began the TRIAD approach to resolve data gaps at Sites 8 and 36. AFRPA completed additional fieldwork and submitted the WSA PA/SI draft report. RA-O activities at two landfills and Building 550, and the groundwater monitoring program continued. AFRPA attained the last remedy-in-place milestone at the BRAC IRP sites and began evaluating requirements at MMRP sites. The RAB met on a quarterly basis.

In FY06, RA-O activities at two landfills and Building 550, and the groundwater monitoring program continued. AFRPA initiated a PA/SI at Area of Concern (AOC) 048, a potential source of groundwater contamination on the eastern boundary of the installation, and a reevaluation of the Site 4 landfill remedy as a result of the rise in nearby groundwater. The AFRC completed fieldwork for Sites 8 and 36, and turned off the Site 2 treatment system. AFRPA completed MMRP requirement evaluations, and either administratively closed or determined, with regulatory concurrence, no further action requirements for all MMRP sites. The RAB met twice.

## FY07 IRP Progress

The Air Force continued RA-O activities at two landfills and Building 550, as well as the groundwater monitoring program. AFRPA completed the PA/SI at AOC 048 (FT 007) and the Site

4 remedy evaluation. Two extraction wells and two monitoring wells were installed at Site ST 048 (Building 550). AFRPA also transferred the remaining BRAC property at March AFB. The AFRC completed closure documentation for Site 2, issued draft RI/FS reports for Sites 8 and 36, and shut down the Site 27 SVE system and took confirmation borings. A remedial process optimization study was completed on the expanded groundwater extraction and treatment system and groundwater monitoring program. The cost of completing environmental restoration has changed significantly due to changes in estimating criteria.

## FY07 MMRP Progress

AFRPA continued closure documentation for three MMRP sites.

## Plan of Action

Plan of action items for March Air Force Base are grouped below according to program category.

### IRP

- Complete Building 550 RA-O activities and attain site closure at Site 12 in FY08.
- Complete Site 4 remedy modification decision document and draft design, if required, in FY08.
- Complete the second 5-year review in FY08.
- Complete RI/FS, PP, and ROD for Sites 8 and 36 in FY08-FY09.
- Complete cleanup of Site 33 and close Site 27 in FY08-FY09.
- Continue RA-O activities at landfills and groundwater monitoring program in FY08-FY09.

### MMRP

- Complete closure documentation for three MMRP sites on BRAC property in FY08.

<b>FFID:</b>	CA917002477500	<b>Media Affected:</b>	Groundwater, Surface Water, Sediment, Soil
<b>Size:</b>	5,293 acres	<b>Funding to Date:</b>	\$ 202.0 million
<b>Mission:</b>	Maintained and repaired ships and provided logistical support for assigned ship and service craft	<b>Est. CTC (Comp Year):</b>	\$ 51.3 million (FY 2008)
<b>HRS Score:</b>	N/A	<b>IRP Sites (Final RIP/RC):</b>	36 (FY2010)
<b>IAG Status:</b>	FFSRA signed in September 1992; renegotiated in July 2002	<b>MMRP Sites (Final RIP/RC):</b>	11 (FY2012)
<b>Contaminants:</b>	Heavy metals, VOCs, PCBs, pesticides, petroleum hydrocarbons, lead oxides, UXO, SVOCs, explosives, propellants	<b>Five-Year Review Status:</b>	A 5-year review is not required for this installation.



Vallejo, California

**Progress To Date**

In July 1993, the BRAC Commission recommended closure of Mare Island Naval Shipyard and relocation of the Combat Systems Technical School's Command Activity to Dam Neck, Virginia. The installation closed in FY96. Investigations of chemical and munitions contamination were initiated in FY80. An administrative record and information repository were established in FY90. Ordnance sites include dredge ponds, storage areas, and the production area. Four offshore areas have identified munitions concerns. The installation formed a technical review committee in FY90 and converted it to a Restoration Advisory Board (RAB) in FY94. The installation completed its community relations plan in FY92, which was updated in FY94 and again in FY01. The installation signed a federal facility site remediation agreement (FFSRA) in September 1992, which was renegotiated in July 2002 to address early transfers. The RAB received technical assistance for public participation grants in FY99, FY02, and FY03.

The installation completed the transfer of approximately 3,500 acres. No Further Action Records of Decision (RODs) were issued for Installation Restoration (IR) Site 22 and the H1/landfill area. In FY02, the Navy completed an inventory of all Military Munitions Response Program (MMRP) sites. The cleanup progress at Mare Island Naval Shipyard for FY03 through FY06 is detailed below.

In FY03, the installation completed drafting the planning document for removal action at Site 28, the Defense Reutilization Marketing Office (DRMO), and the H1 landfill groundwater slurry wall trench. The installation continued progress with the remedial investigation and feasibility studies (RI/FSs) for A1, A2, F1, F2, and H1. In addition, the installation completed cleanup at the newly discovered petroleum site. The installation completed the action memo (AM) and initiated a time-critical removal action (TCRA) at the Marine Corps Firing Range. Offshore munitions surveys were initiated for the production and manufacturing and South Shore Areas (SSAs). The RI/FSs are anticipated to determine further response actions for onshore sites. The installation drafted planning documents for a non-TCRA (NTCRA) to operate the open burning/open detonation range for disposal of recovered munitions.

In FY04, the installation continued negotiations with the local redevelopment authority (LRA) for environmental services cooperative agreements for potential early transfer parcels. The LRA continued developing proposals for various sites. The installation completed the removal action for the H1 groundwater.

In FY05, Mare Island Naval Shipyard submitted the draft RI for Area F1. The installation also completed the planning documents and AM for the NTCRA at the DRMO site, and commenced cleanup work. Mare Island Naval Shipyard resumed the TCRA at the Marine Corps Firing Range. The installation responded to munitions and explosives of concern (MEC) discoveries within excavated soils on the Eastern Early Transfer Parcel. MEC support was provided to screen items of concern (5 and 8 inch projectiles), which were disposed along an historic shoreline area and determined to all be inert. The installation also hosted an Army Corps of Engineers' demonstration of the Contained Detonation Chamber.

In FY06, Mare Island Naval Shipyard completed the RI/FS, finalized the ROD, and commenced implementation of the final remedy for the H1/landfill area. Cleanup continued on the DRMO site and the Navy finalized the RI/FS and draft ROD for IR Site 17. The installation submitted a draft finding of suitability to transfer (FOST) for the elementary school site and Parcel XV-B2. The installation also submitted the draft final RI for Area F1 and extended site inspection (SI) for the storm drain. The installation completed the Marine Corps Firing Range removal action and began formulating an agreement on transferring MEC cleanup of early transfer parcels. MEC validation surveys and investigations for offshore and onshore sites from the Projection and Manufacturing Area (PMA) to the Western Magazine Area (WMA) also began. The RAB continued to meet monthly. The BRAC cleanup team (BCT) continued to evaluate cleanup and develop the site management plan.

**FY07 IRP Progress**

Mare Island Naval Shipyard continued implementation of the final remedy of the H1/landfill area. The installation completed the removal action and submitted a draft total petroleum hydrocarbon (TPH) technical memorandum for the DRMO site. The installation initiated TCRAs at Area F2 (Site 4), Horse

Stables Area, Paint Waste Area and Parcel XVI; and began discussions of the early transfer parcels.

Technical issues delayed the implementation of the final remedy of the H1/landfill area, and the ROD for IR Site 17. Regulatory and contractual issues delayed completion of the TCRAs at Area F2, Horse Stables Area, Paint Waste Area, and Parcel XVI, as well as agreements on the transfer of cleanup of early transfer parcels.

The BCT continued to meet, evaluate cleanup, and develop the site management plan. The RAB met monthly and conducted a community tour.

**FY07 MMRP Progress**

Mare Island Naval Shipyard completed MEC validation surveys and investigations for offshore and onshore MEC sites at the PMA, SSA, and WMA.

Regulatory issues delayed initiation of the MEC NTCRA within the PMA and SSA. Regulatory issues also delayed formal agreements on the transfer of cleanup for early transfer parcels.

**Plan of Action**

Plan of action items for Mare Island Naval Shipyard are grouped below according to program category.

**IRP**

- Complete final remedy for H1/landfill area in FY08.
- Complete the TCRA at Area F2, Parcel XVI Paint Waste Area, Horse Stables Area, and IR Site 5 in FY08.
- Begin EECA/AM for IR Site 17 in FY08.
- Formulate agreement on transferring cleanup of early transfer parcels in FY08.

**MMRP**

- Formulate agreement on transferring MEC cleanup of early transfer parcels in FY08.
- Develop strategy and begin MEC NTCRA within the PMA and SSA in FY08.

<b>FFID:</b>	VA317302472200	<b>Funding to Date:</b>	\$ 61.9 million
<b>Size:</b>	60,000 acres	<b>Est. CTC (Comp Year):</b>	\$ 36.9 million (FY 2018)
<b>Mission:</b>	Provide military training and support research, development, testing, and evaluation of military hardware	<b>IRP Sites (Final RIP/RC):</b>	102 (FY2012)
<b>HRS Score:</b>	50.00; placed on NPL in June 1994	<b>MMRP Sites (Final RIP/RC):</b>	25 (FY2017)
<b>IAG Status:</b>	FFA signed in February 1999	<b>Five-Year Review Status:</b>	Completed and planned
<b>Contaminants:</b>	PCBs, pesticides, VOCs, SVOCs, phenols, heavy metals, petroleum hydrocarbons, arsenic, explosives, propellants		
<b>Media Affected:</b>	Groundwater, Surface Water, Sediment, Soil		



Quantico, Virginia

**Progress To Date**

Marine Corps Base Quantico operated a municipal landfill throughout the 1970s. After the landfill closed, the area was used as a scrap yard. Sites at the installation include surface disposal areas, underground storage tanks, and disposal pits that contain contaminated soil, surface water, and sediment. A technical review committee was formed in FY89. The facility signed a federal facility agreement (FFA) in December 1991 and February 1999. In FY92, the installation established three information repositories, each containing a copy of the administrative record. Contamination at the old landfill area was the primary reason for the installation's placement on the NPL in June 1994. In 2005, the BRAC Commission recommended Marine Corps Base Quantico for realignment. The installation completed a community relations plan in FY95, which was updated in June 2003. In FY02, the installation conducted a 5-year review for Site 4.

EPA has identified 303 areas of concern (AOCs) at Quantico. The Navy currently recognizes Installation Restoration Program (IRP) sites and RCRA solid waste management units (SWMUs) at this installation. The remaining AOCs required further investigation to determine extent of contamination. In FY99, two SWMUs and seven AOCs were closed. The installation signed a No Further Action Record of Decision (ROD) for Sites 1 and 5 in FY00, and Site 17 in FY01. The Navy completed an inventory of Military Munitions Response Program (MMRP) sites in FY02. The cleanup progress at Marine Corps Base Quantico for FY03 through FY06 is detailed below.

In FY03, the installation completed the environmental engineering and cost analyses (EE/CAs) on four sites and implemented interim remedial actions (IRAs) at three sites. The installation submitted the final feasibility study (FS) for Site 4 to regulators for review. The installation completed the final post-IRA report for Quantico Embayment. The installation awarded the IRA at Site 20.

In FY04, the installation completed Phase I of the IRA at the Former Rifle Range (Site 20) and implemented Phase II. The installation also completed an additional IRA for the auto hobby shop (Site 34) resulting in site closure and awarded IRAs for additional site work. The installation finalized the post-IRA study for contaminated sediments and submitted a draft FS for

review. Sampling work continued for the remainder of the Quantico Watershed Study site inspections (SIs) and remedial investigations. The installation completed EE/CAs for five sites.

In FY05, Marine Corps Base Quantico completed an IRA at Site 20. The installation completed EE/CAs and IRAs for three sites. The installation issued a final SI for the Potomac River Sediments.

In FY06, Marine Corps Base Quantico completed IRAs at six sites and achieved remedy in place at each site. The installation achieved closeout for six IRP sites. The installation also completed the draft final FS for the Quantico Embayment Sediments and draft RODs for Sites 4, 5, and 20. The Navy began work on a treatability study and IRA at one groundwater site. The installation awarded a basewide MMRP SI, and work commenced.

**FY07 IRP Progress**

Marine Corps Base Quantico completed an IRA at Sites 9 and 95; and site closure for eight sites. The installation finalized two RODs for Sites 5 and 20. The navy continued work on the embayment, remedial design (RD), ROD, and award RA.

**FY07 MMRP Progress**

Marine Corps Base Quantico continued development of the SI work plan.

**Plan of Action**

Plan of action items for Marine Corps Base Quantico are grouped below according to program category.

**IRP**

- Finalize embayment RD and ROD, and award RA in FY08.
- □ Finalize three RODs for Sites 95, M 13, and 4 in FY08.
- Award embayment Phase I IRA in FY08.
- Finalize ROD for Chopawamsic Creek in FY08-FY09.

**MMRP**

- Finalize MMRP work plan in FY08.
- Implement SI in FY08-FY09.

<b>FFID:</b>	MA157282448700	<b>Media Affected:</b>	Groundwater, Surface Water, Sediment, Soil
<b>Size:</b>	22,000 acres	<b>Funding to Date:</b>	\$ 622.7 million
<b>Mission:</b>	Provide Army and Air National Guard training and support the East Coast Air Defense and Coast Guard Air and Sea Rescue Units	<b>Est. CTC (Comp Year):</b>	\$ 452.8 million (FY 2055)
<b>HRS Score:</b>	45.93; placed on NPL in November 1989	<b>IRP Sites (Final RIP/RC):</b>	85 (FY2010)
<b>IAG Status:</b>	FFA signed in July 1991; last amended in June 2002	<b>MMRP Sites (Final RIP/RC):</b>	None
<b>Contaminants:</b>	Waste solvents, VOCs, pesticides, metals, SVOCs, explosives, propellants, petroleum fuel-related compounds	<b>Five-Year Review Status:</b>	Completed and underway



Falmouth, Massachusetts

**Progress To Date**

Massachusetts Military Reservation (MMR) provides Army and Air National Guard training, and supports the East Coast Air Defense and Coast Guard Air and Sea Rescue Units. EPA placed the installation on the NPL in November 1989. The Air Force signed a federal facility agreement (FFA) in July 1991, which was last amended in June 2002. Sites at MMR include chemical and fuel spill sites, storm drains, landfills, and former firefighter training areas. Private and municipal wells near the installation were closed and replaced after off-base migration of groundwater contamination was detected. The installation completed 5-year reviews in FY97 and FY03.

To date, Records of Decision (RODs), interim RODs, or decision documents (DDs) have been signed for 84 sites, and 66 sites have been closed. The cleanup progress at MMR for FY03 through FY06 is detailed below.

In FY03, the installation completed construction and started operation of the Site FS 1 groundwater treatment system, and finalized the second 5-year review. Remedial investigation began on the Site CS 23 groundwater plume and pre-design data was gathered for the CS 18 and 19 unexploded ordnance (UXO) disposal sites. The installation continued monitoring, operation, and optimization of eight groundwater treatment systems and four soil vapor extraction (SVE) systems. Two of the SVE systems achieved cleanup goals and were decommissioned.

In FY04, the installation completed engineering designs for off-base groundwater treatment systems for Sites CS 4, 20, and 21, and FS 29. Real estate support finalized or continued processing easements for 45 properties. MMR commenced soil removal at the CS 19 UXO disposal site, and continued the monitoring, operation, and optimization of eight groundwater treatment systems and two SVE systems. MMR also decommissioned three older groundwater treatment systems associated with the Sites CS 4, SD 5 South, and FS 1 groundwater plumes. Site CS 1 was approved for no further action (NFA). MMR acquired a direct push rig, and utilized direct push technology to fill data gaps in a timely and cost effective manner. The base continued aggressive community involvement (CI) efforts.

In FY05, MMR completed 90 percent of the construction for an off-base combined groundwater treatment system for Sites CS 4, 20, and 21, and FS 29. Real estate support finalized or continued processing easements for 70 properties. The MMR in-house geoprobe rig was used to complete 35 groundwater profile borings to 230 feet deep, install 11 piezometers, and complete 40 soil profile borings. The installation completed removal actions at two sites, completed Phase I and II removal actions at the CS 19 UXO disposal site, issued remedial action (RA) reports for five sites, closed three sites, decommissioned an SVE system, and obtained NFA for two groundwater sites. MMR continued monitoring, operation, and optimization of eight groundwater treatment systems and an SVE system. The Air Force updated its Military Munitions Response program (MMRP) inventory. No MMRP sites were identified at this installation during the inventory development. The base CI team continued aggressive CI efforts.

In FY06, MMR completed construction on its largest groundwater remediation system, which treats over 4.7 million gallons per day from four sites. Construction was 80 percent complete on the LF 1 expansion and Site CS 23 groundwater treatment systems. MMR continued monitoring, operating, and optimizing eight groundwater treatment systems with a combined capacity of over 17 million gallons per day. The installation completed two RODs, one interim ROD, and one DD resulting in a site closure determination for three sites, a response complete (RC) achievement for one site, and a remedy in place achievement for one site. The installation obtained RC at sites FS 25 and CS 14, and began RA-operations at Sites CS 4, 20, and 21, and FS 29. MMR completed the Phase III removal action at the CS 19 UXO disposal site, and obtained a NFA determination for the CS 13 groundwater site. The Air Force submitted a delisting package for 63 sites to EPA. The CI program continued.

**FY07 IRP Progress**

MMR completed construction of groundwater treatment systems and finalized RODs for Sites LF 1 and CS 23. The Air Force Center for Engineering and the Environment awarded a contract for a utility-class wind turbine to offset the large electricity requirement of the eight groundwater treatment systems. The installation installed an additional extraction well to address a previously uncaptured portion of the FS 28

groundwater plume. The new FS 28 well and pipeline required six off-base easements and construction through a wetland/cranberry bog area. EPA published a notice of partial NPL delisting for 61 MMR sites. MMR implemented major optimizations of the FS 12 and Ashumet Valley groundwater treatment systems resulting in the shutdown or adjustment of numerous extraction wells. MMR initiated the third 5-year review. The cost of completing environmental restoration has changed significantly due to changes in estimating criteria.

Regulatory issues delayed the ROD for the Ashumet Valley groundwater plume and CS 10 groundwater plume.

**FY07 MMRP Progress**

A historical records review identified two potential MMRP Sites on leased property.

**Plan of Action**

Plan of action items for Massachusetts Military Reservation are grouped below according to program category.

**IRP**

- Complete RODs for the CS 10 and Ashumet Valley groundwater plumes in FY08.
- Initiate a new land use control program that addresses potential exposure to off-base contaminated groundwater in FY08.
- Finalize the third 5-year review in FY08.
- Construct and begin operation of a new wind turbine in FY08-FY09.

**MMRP**

- Evaluate two potential sites to determine MMRP eligibility in FY08.

<b>FFID:</b>	CA957002474300	<b>Funding to Date:</b>	\$ 193.1 million
<b>Size:</b>	5,718 acres	<b>Est. CTC (Comp Year):</b>	\$ 75.3 million (FY 2067)
<b>Mission:</b>	Provided navigation and electronic warfare officer training; housed SAC Bombing and Refueling Squadron	<b>IRP Sites (Final RIP/RC):</b>	89 (FY2006)
<b>HRS Score:</b>	28.90; placed on NPL in July 1987	<b>MMRP Sites (Final RIP/RC):</b>	4 (FY2008)
<b>IAG Status:</b>	IAG signed in 1989	<b>Five-Year Review Status:</b>	Completed and planned
<b>Contaminants:</b>	VOCs, SVOCs, metals, solvents, jet fuel, petroleum hydrocarbons, lead		
<b>Media Affected:</b>	Surface Water, Sediment, Soil, Groundwater		



Sacramento, California

## Progress To Date

In July 1987, Mather Air Force Base (AFB) was placed on the NPL. The BRAC Commission recommended closure in December 1988 and the installation signed an interagency agreement (IAG) the following year. Before becoming inactive in FY93, the installation housed the 323rd Flying Training Wing, a Strategic Air Command (SAC) wing, a Reserve air refueling group, and an Army National Guard aviation unit. Site types include landfills, underground storage tanks (USTs), fire training areas, a trichloroethylene (TCE) disposal site, a weapons storage area, wash rack areas, spill areas, and waste pits. Interim actions included removing USTs and contaminated soil, supplying an alternate water supply for nearby residents, removing sludge from a former wastewater treatment plant, removing petroleum product by soil vapor extraction (SVE), and excavating pesticide contamination from drainage ditches. In FY94, a Restoration Advisory Board (RAB) and a BRAC cleanup team (BCT) were formed. In FY01, removal actions at Sites 80 (ST 080), 85 (DD 085), 88 (SD 088), and 89 (OT 089) were completed except for reclamation and reporting. The installation also completed the draft remedial action report (RAR) for Site 15 (SD 015) and the RAR for Site 62 (OT 062). The installation completed 5-year reviews in FY00 and FY05.

Studies have identified Installation Restoration Program (IRP) sites at the installation, which were grouped into six operable units (OUs): OU 1, Aircraft Control and Warning Site; OU 2, Groundwater; OU 3, Soil; OU 4, Landfill; OU 5, Basewide; and OU 6, Supplemental Basewide. To date, Records of Decision (RODs) have been approved for OUs 1 through 6. In FY04, the Air Force conducted an inventory of Military Munitions Response Program (MMRP) sites. The cleanup progress at Mather AFB from FY03 through FY06 is detailed below.

In FY03, the installation began two performance and protectiveness reviews/remedial process optimization evaluations: one for groundwater monitoring and one for groundwater remediation. RARs were completed for Sites 69 (OT 069) and 86 (FR 086). The installation discovered additional buried debris and fuel contamination at Site 10C/68 (FT 010/ST 068).

In FY04, Mather AFB installed a new extraction well near the toe of the main base/SAC area plume. One injection well was redeveloped and two extraction wells were replaced. A reduction of groundwater sampling frequency reduced operation and maintenance costs. The installation initiated the closure process for two CERCLA and two non-CERCLA sites. The Air Force conducted an inventory of MMRP sites. MMRP sites were identified at this installation.

In FY05, the installation began operating the new extraction well near the toe of the main base/SAC Area plume. Existing groundwater, SVE, and treatment systems continued to operate. The Air Force completed the second 5-year review report and obtained concurrence. The Air Force began evaluating requirements at MMRP sites at this installation. RAB and BCT activities continued.

In FY06, Mather AFB continued to operate existing groundwater, SVE, and treatment systems. The Air Force continued to collect site information on the remaining 13 active SVE sites. The installation completed the final OU 6 ROD and attained the last remedy in place milestone. The installation began reinstallation of the groundwater remediation system at Site WP 007. The installation continued to evaluate requirements at MMRP sites. RAB and BCT activities continued.

## FY07 IRP Progress

The Air Force continued to operate existing groundwater, SVE, and treatment systems. The installation reinstalled the groundwater remediation system at Site WP 007 and installed an additional monitoring well at the southwest lobe of the Main Base Plume to assist in determining the location for a new extraction well.

Regulatory issues delayed the lead removal action at Site FT 010C until agreement on an explanation of significant differences is reached. Regulatory and technical issues also delayed the installation of an additional extraction well.

## FY07 MMRP Progress

The Air Force began MMRP investigation for closure of a practice grenade range.

## Plan of Action

Plan of action items for Mather Air Force Base are grouped below according to program category.

### IRP

- Install an additional extraction well at southwest lobe of Main Base Plume in FY08.
- Conduct lead removal action at Site FT 010C in FY08.
- Conduct perched water zone pumping at WP 007 landfill to enhance SVE in FY08.
- Continue to operate groundwater, SVE, and treatment systems in FY08 and FY09.

### MMRP

- Perform site inspection (SI) at Mather Lake in FY08.
- Perform SI for potential buried unexploded ordnance in FY08.

<b>FFID:</b>	WA057182420000	<b>Contaminants:</b>	VOCs, SVOCs, metals, chlorinated solvents, petroleum hydrocarbons, pesticides, radioactive waste
<b>Size:</b>	4,616 acres	<b>Media Affected:</b>	Groundwater and Soil
<b>Mission:</b>	Provide airlift services for troops, cargo, equipment, passengers, and mail	<b>Funding to Date:</b>	\$ 27.6 million
<b>HRS Score:</b>	31.94 (Area D/American Lake Garden Tract); placed on NPL in September 1984; 42.24 (Washrack/Treatment Area); placed on NPL in July 1987 and delisted from NPL in September 1996	<b>Est. CTC (Comp Year):</b>	\$ 32.4 million (FY 2044)
<b>IAG Status:</b>	FFA signed in August 1989; consent decree with State of Washington signed in February 1992	<b>IRP Sites (Final RIP/RC):</b>	65 (FY2004)
		<b>MMRP Sites (Final RIP/RC):</b>	6 (FY2015)
		<b>Five-Year Review Status:</b>	Completed and planned



Tacoma, Washington

**Progress To Date**

McChord Air Force Base (AFB) provides airlift services for troops, cargo, equipment, and mail. Sites at the installation include fire training areas, spill areas, landfills, and waste pits. Two sites were placed on the NPL: the Area D/American Lake Garden Tract (ALGT) in September 1984 and the Washrack/Treatment Area (WTA) in July 1987. WTA was delisted in September 1996. The Air Force signed a federal facility agreement (FFA) in August 1989 and a consent decree with the State of Washington in February 1992. In 2005, the BRAC Commission recommended McChord AFB for realignment. McChord AFB assessed the local community's interest in forming a Restoration Advisory Board (RAB) in FY95, FY96, FY98, FY99, and FY04. It found very little interest in forming a RAB due to the maturity of the program and community trust in the installation. The installation completed 5-year reviews for the WTA in FY99 and FY04 and for Area D/ALGT in FY00 and FY05.

Since 1982, 65 sites have been identified at this installation. All 65 sites were classified as remedy in place by FY96; however, Site SS 34 was reopened in FY00. Six sites are currently listed on the state's hazardous sites list and are managed through long-term monitoring (LTM) and natural attenuation (NA) monitoring. To date, 600 million gallons of groundwater have been treated and 52 pounds of trichloroethylene (TCE) have been recovered at Area D/ALGT. A Record of Decision (ROD) was signed for the WTA. The cleanup progress at McChord AFB for FY03 through FY06 is detailed below.

In FY03, the installation completed a field pilot test and obtained information necessary for the remedial design (RD) of an in situ treatment system for TCE. Permanganate injection proved to be successful in eliminating TCE in all wells included in the pilot test. The installation developed a cleanup action plan for SS 34N based on the results of the field pilot test and submitted the document for approval. The RD for SS 34N received funding and a contract was awarded.

In FY04, McChord AFB completed the RD and began the Phase I remedial action (RA) at Site SS 34N, where sodium permanganate was injected into the groundwater via a network of 32 wells and proved to be successful in TCE treatment. As part of the RA-construction, the installation developed and

implemented a monitoring plan both on and off-base to determine if and when a Phase II injection round will be necessary at SS 34N. The second 5-year review for the WTA was conducted and regulators concurred with the recommendation that this would be the final CERCLA review for this site. The installation distributed over 10,000 surveys within the surrounding communities, polling for RAB community interest. Two individuals expressed interest in RAB participation.

In FY05, McChord AFB completed the second 5-year review and finalized an RA optimization study for Area D/ALGT. The installation monitored the progress of the SS 34N RA and optimized the Phase II execution strategy. The Air Force began the preliminary assessments (PAs) for all identified Military Munitions Response Program (MMRP) sites.

In FY06, McChord AFB pursued options for delisting Area D/ALGT from the NPL. The installation extended the monitoring of Phase I progress of SS 34N. McChord AFB continued to refine the Phase II execution strategy for SS 34N. The installation has ongoing assessments for all identified Installation Restoration Program (IRP) sites. McChord AFB continued PAs at all identified MMRP sites. The RAB distributed approximately 11,000 information sheets to residents surrounding the installation.

**FY07 IRP Progress**

McChord AFB continued SS 34N RA Phase II execution and optimization. Installationwide LTM and NA monitoring continued. The installation continued operation and maintenance for Area D/ALGT and redirected NPL delisting efforts for the site to optimization and plume reduction using bioremediation technology. The installation began dialogue with the state to delist Landfills (LFs) 01 and 02, DP 61, and WP 64.

**FY07 MMRP Progress**

McChord AFB completed MMRP Phase I inspection of all identified sites.

**Plan of Action**

Plan of action items for McChord Air Force Base are grouped below according to program category.

**IRP**

- Remove insecticide-contaminated soil from WP 64 in FY08.
- Pursue a ROD amendment to modify the current pump-and-treat extraction system in FY08.
- Continue installationwide NA monitoring in FY08-FY09.
- Continue SS 34N Phase II optimization in FY08-FY09.
- Submit delisting request to the state for LFs 01 and 02, DP 61, and WP 64 in FY08-FY09.

**MMRP**

- Begin MMRP Phase II site inspections in FY08.

<b>FFID:</b>	CA957172433700	<b>Media Affected:</b>	Groundwater, Surface Water, Sediment, Soil
<b>Size:</b>	3,452 acres	<b>Funding to Date:</b>	\$ 592.7 million
<b>Mission:</b>	Provide logistics support for aircraft, missile, space, and electronics programs	<b>Est. CTC (Comp Year):</b>	\$ 424.5 million (FY 2066)
<b>HRS Score:</b>	57.93; placed on NPL in July 1987	<b>IRP Sites (Final RIP/RC):</b>	324 (FY2015)
<b>IAG Status:</b>	FFA signed in May 1990	<b>MMRP Sites (Final RIP/RC):</b>	2 (FY2011)
<b>Contaminants:</b>	Metals, cleaners and degreasers, paints, lubricants, photochemicals, phenols, SVOCs, solvents, PCBs, VOCs, radioactive material, explosives, propellants	<b>Five-Year Review Status:</b>	Completed and planned



Sacramento, California

## Progress To Date

The mission of the former McClellan Air Force Base (AFB) was to provide support for aircraft, missile, space, and electronics programs. EPA placed the installation on the NPL in July 1987, and the Air Force signed a federal facility agreement (FFA) in May 1990. In 1995, the BRAC Commission recommended the closure of McClellan AFB. Environmental contamination at McClellan AFB has resulted from sumps associated with industrial operations, landfills, leaks from industrial waste lines, surface spills, and underground storage tanks. Studies detected groundwater contamination, leading to the closure of two on-base and three off-base drinking water wells. In addition to 373 acres of contaminated soil in the vadose zone, there are 3 large plumes, totaling over 660 acres, consisting primarily of trichloroethylene (TCE)-contaminated groundwater. The installation converted its technical review committee to a Restoration Advisory Board (RAB) in FY93. A BRAC cleanup team (BCT) has been formed at this installation. In FY04, the Air Force completed the second 5-year review for the NPL portion of the base and the 5-year review for the Davis site, which is located approximately 15 miles west of McClellan AFB.

Sites at the installation are grouped into 11 operable units (OUs), including an installation wide groundwater OU. The groundwater Record of Decision (ROD) has been signed. One soil ROD has been completed. In addition, two No Action RODs have been signed. One interim ROD remains in place but will be replaced by the 62-acre privatization parcel ROD. To date, the installation has transferred 530 acres. In FY04, the Air Force conducted an inventory of Military Munitions Response Program (MMRP) sites. The cleanup progress at McClellan AFB for FY03 through FY06 is detailed below.

In FY03, the installation completed the time-critical removal action (TCRA) for the hexavalent chromium treatment system and the six site No Action ROD. The TCRA at CS 10 resulted in the excavation of over 51,000 cubic yards of contaminated soil, with approximately one-third of the excavated soil remaining safely on site. Operation of groundwater and soil vapor treatment systems continued.

In FY04, the installation completed the local redevelopment authority (LRA) Initial Parcel #1 ROD and associated finding of suitability for early transfer (FOSET) and finding of suitability for

transfer for 82 acres. A total of 154 acres were transferred by deed. The interim ROD groundwater Phase III off-base design was completed and the interim ROD groundwater Phase III on-base design began. The installation completed the second 5-year review for the NPL portion of the base and also completed the first 5-year review for the Davis site. The Air Force conducted an inventory of MMRP sites. MMRP sites were identified at this installation.

In FY05, the installation completed construction of the Phase III groundwater system. The installation awarded the Davis site cleanup guaranteed firm-fixed price contract to achieve site closeout. The Air Force began evaluating requirements at MMRP sites at this installation. BCT activities and active RAB participation continued.

In FY06, McClellan AFB completed remedial actions (RAs) for two of the three action sites in the LRA Initial Parcel #1 ROD. The installation continued to operate the biovent system at the third action site in the LRA Initial Parcel #1 ROD. The Air Force completed the Focused Strategic Sites feasibility study (FS). The installation completed the agreement on a new flow, fate, and transport model, minimizing the time required for cleanup. The installation streamlined the groundwater treatment system. The Air Force continued the soil vapor extraction (SVE) program, and accelerated cleanup by expanding the number of treatment systems from 14 to 16 to increase contaminant extraction capacity. The installation conducted verification sampling and completed initial negotiations with regulators to close a completed SVE site. McClellan AFB continued to evaluate MMRP requirements at two sites: the Former Skeet Range and a suspected discarded military munitions (DMM) landfill site. BCT activities and active RAB participation continued.

## FY07 IRP Progress

The Air Force continued to operate and maintain the groundwater pump and treat system, a biovent system, and multiple SVE systems. The final Volatile Organic Compound (VOC) Groundwater ROD was completed and was signed by the Air Force and regulators. The Air Force completed a pilot project involving the early transfer of a 62-acre parcel with privatized cleanup of the 9 IRP sites on the parcel. An amendment to the May 1990 McClellan FFA was required.

Regulators approved soil vapor cleanup standards, and the Air Force finalized deed covenant language to require monitoring of soil vapors.

BCT activities and active RAB participation continued.

## FY07 MMRP Progress

The Air Force continued its review of the Former Skeet Range and DMM landfill site.

## Plan of Action

Plan of action items for McClellan Air Force Base are grouped below according to program category.

### IRP

- Complete LRA Initial Parcel #3, Small Volume Sites, and Ecological Sites FSs/proposed plans (PPs)/RODs in FY08.
- Complete FOSET #1 Early Transfer with privatized cleanup in FY08.
- Complete Non-VOC Groundwater remedial investigation/FS/PP/ROD in FY08.
- Complete remedial design (RD)/RA for LRA Initial Parcel #2 and #3 action sites in FY08.
- Revise LRA Initial Parcel #2 ROD and reissue for regulatory signature in FY08.
- Complete Focused Strategic Sites ROD in FY08, and initiate RD and RA phase in FY09.

### MMRP

- Complete DMM landfill site intrusive field investigation and evaluate closure alternatives in FY08.
- Close the Former Skeet Range in FY08.

<b>FFID:</b>	NJ257182401800	<b>Funding to Date:</b>	\$ 57.2 million
<b>Size:</b>	3,500 acres	<b>Est. CTC (Comp Year):</b>	\$ 177.8 million (FY 2032)
<b>Mission:</b>	Provide quick-response airlift capabilities for placing military forces into combat situations	<b>IRP Sites (Final RIP/RC):</b>	42 (FY2012)
<b>HRS Score:</b>	47.20; placed on NPL in October 1999	<b>MMRP Sites (Final RIP/RC):</b>	None
<b>IAG Status:</b>	FFA under negotiation	<b>Five-Year Review Status:</b>	Planned
<b>Contaminants:</b>	SVOCs, PAHs, BTEX, TPH, VOCs, metals, PCBs, TCE, pesticides, radioactive materials		
<b>Media Affected:</b>	Groundwater and Soil		



Burlington County, New Jersey

**Progress To Date**

McGuire Air Force Base (AFB) provides quick-response airlift capabilities for placing military forces into combat situations. EPA placed the installation on the NPL in October 1999. Sites include landfills, waste piles, fire training areas, hazardous waste storage areas, and spill sites. The installation formed a Restoration Advisory Board (RAB) in 1999.

Installation Restoration Program (IRP) sites have been identified at McGuire AFB, including six at the Boeing Michigan Aeronautical Research Center (BOMARC) facility, a remote location under McGuire AFB jurisdiction. The Air Force updated its Military Munitions Response Program (MMRP) inventory. The cleanup progress at McGuire AFB for FY03 through FY06 is detailed below.

In FY03, the installation completed operation of the free product recovery equipment at pilot scale for the Bulk Fuel Storage Area (ST 09). The basewide background study report was also finalized. Based on an environmental site inspection, 19 former areas of concern were added as new sites, resulting in a total of 42 sites at the installation. Two RAB meetings were held. Seven partnering (Tier I/II) meetings were held with regulators, action officers, and installation personnel. Three Tier III conference calls were held.

In FY04, the installation began the remedial investigation (RI) work plan development for Landfills (LFs) 02 and 03. In addition, the installation completed soil removal at the BOMARC missile accident site (RW 01) and interim remedial action Phase I soil removal at Fire Protection Training Area 3 (FT 13). McGuire AFB continued the RI study for the trichloroethylene (TCE) groundwater plume delineation and source investigation for OT 16 and for the spill site at Building 2227 (SS 24). The installation held two RAB meetings, one Tier I/II partnering meeting, and one Tier III partnering meeting.

In FY05, McGuire AFB completed RI fieldwork for LF 03 and the RI for Building 2227 (SS 24). The installation initiated a comprehensive basewide conceptual site model (CSM), ecological study, and background study. The Department of Energy led a survey at the BOMARC missile accident site (RW 01) and identified numerous discrete particles of contamination. McGuire AFB expanded the fence line around the BOMARC

facility to contain some of the identified particles. No MMRP sites were identified at this installation during the inventory development. The installation held two RAB meetings, one Tier I/II partnering meeting, and one Tier I/II/III partnering meeting.

In FY06, McGuire AFB completed additional site surveys and initiated cleanup of the Class 1 area at RW 01. The Air Force continued work on the comprehensive basewide CSM, ecological study, and background study. The installation initiated RIs for the LF Operable Unit (OU) (LFs 02, 19, and 20, and WP 21) and ST 07. McGuire AFB completed the RI study for LF 03. Additionally, McGuire AFB continued the basewide ecological study, which included flyover surveys, a full basewide wetland delineation, and other key ecological components. McGuire AFB held one Tier I/II partnering meeting and two RAB meetings. The installation also initiated the RAB Journal. Two RAB mailings were distributed.

**FY07 IRP Progress**

McGuire AFB initiated RIs for 16 sites (4 OUs), completed fieldwork for one OU (SS 25/26), and submitted work plans for two OUs to regulators. The installation continued the RIs for LF OU (LFs 02, 19, and 20, and WP 21) and ST 07, and completed the RIs for Sites OT 16 and SS 24. The work plan and fieldwork for ST 09 was completed and the RI was initiated. The installation completed rapid site characterization projects for 11 sites and the BOMARC facility was completed.

Administrative issues delayed initiation of the feasibility study (FS) for LF 03, ST 07, OT 16 and SS 24.

**FY07 MMRP Progress**

The Air Force initiated a preliminary assessment (PA) at this installation.

**Plan of Action**

Plan of action items for McGuire Air Force Base are grouped below according to program category.

**IRP**

- Initiate performance-based contract at nine sites for RI through remedial action-construction phases in FY08.
- Complete RIs at 12 sites in FY08.
- Complete FSs at four sites in FY08.
- Complete final reports and request no further action from the New Jersey Department of Environmental Protection for the BOMARC site (RW 01) in FY08.

**MMRP**

- Complete PA in FY08.

<b>FFID:</b>	PA317002210400	<b>Funding to Date:</b>	\$ 32.1 million
<b>Size:</b>	824 acres	<b>Est. CTC (Comp Year):</b>	\$ 12.9 million (FY 2015)
<b>Mission:</b>	Provide inventory management and supply support for weapons systems	<b>IRP Sites (Final RIP/RC):</b>	15 (FY2014)
<b>HRS Score:</b>	50.00; placed on NPL in May 1994	<b>MMRP Sites (Final RIP/RC):</b>	1 (FY2011)
<b>IAG Status:</b>	FFA signed in FY05	<b>Five-Year Review Status:</b>	Completed and planned
<b>Contaminants:</b>	PCBs, heavy metals, pesticides, VOCs, SVOCs, dioxin		
<b>Media Affected:</b>	Groundwater, Sediment, Soil		



Mechanicsburg, Pennsylvania

## Progress To Date

Mechanicsburg Naval Inventory Control Point (NICP), currently Naval Support Activity Mechanicsburg, provides inventory management and supply support for weapons systems. Historical defense industrial and inventory disposal operations have caused contamination at this installation. EPA placed Mechanicsburg NICP on the NPL in May 1994, and the installation signed a federal facility agreement (FFA) in FY05. A technical review committee, formed in FY88, was converted to a Restoration Advisory Board (RAB) in FY95. The installation placed its administrative record on CD-ROM and completed a community relations plan in FY99. The installation completed a 5-year review in FY04.

Environmental investigations conducted at Mechanicsburg NICP have identified 15 Installation Restoration Program (IRP) sites. The installation has completed Records of Decision (RODs) for Sites 1 and 3 (soil and groundwater), and a No Further Action (NFA) ROD for Site 11. In addition, NFA Decision Documents (DDs) have been completed for Sites 2, 4, 7, 8 (groundwater), 11, 12, 13, 14, and 15, as well as 49 lower priority areas of concern (AOCs). The Navy completed an inventory of all Military Munitions Response Program (MMRP) sites in FY02. The cleanup progress at Mechanicsburg NICP for FY03 through FY06 is detailed below.

In FY03, the installation completed the groundwater feasibility study (FS) for Site 9 and the final groundwater FS for Site 3. The installation completed the soil removal at AOC 38. The installation completed a draft 5-year review.

In FY04, the installation completed the 5-year review and a site management plan. The installation completed the Site 3 proposed remedial action plan (PRAP) and pilot study. NFA DDs were completed for AOCs 36 A and 38. A Site 9 FS and fieldwork for a bioremediation pilot study were completed. The installation completed a time-critical action memorandum and soil removal for Site 5. Due to the additional soil contamination, Site 5 was reopened and the contractor was tasked to perform remedial investigation (RI).

In FY05, Mechanicsburg NICP signed the FFA. The installation completed the Site 3 ROD and completed the Site 5 RI work plan and fieldwork.

In FY06, Mechanicsburg NICP completed the RI/FS report and an engineering evaluation and cost analysis (EE/CA) for Site 5. The installation also completed an EE/CA for Site 11. The Navy completed the performance monitoring of the Site 3 chemical oxidation pilot study and issued the draft report.

### FY07 IRP Progress

Mechanicsburg NICP completed an RI and drafted a focused FS for Site 8 (soil). The installation issued a sampling report for groundwater monitoring at Site 3, and evaluated the relevance of an explanation of significant differences (ESD) and FS addendum. The Navy collected sample and analysis data for Site 9. The Navy also completed the PRAP, RA, and NFA ROD for Site 11. The cost of completing environmental restoration has changed significantly due to technical issues.

Contractual issues delayed initiation of the RA at Site 5. Technical issues canceled the net environmental benefit analysis. Technical issues also delayed Sites 3 and 9 FS addendums, and the initiation of the Site 3 ESD.

### FY07 MMRP Progress

Mechanicsburg NICP received regulatory concurrence for NFA at the Former Outdoor Pistol Range (AOC 47).

## Plan of Action

Plan of action items for Mechanicsburg Naval Inventory Control Point are grouped below according to program category.

### IRP

- Initiate RA, and complete PRAP and ROD for Site 5 in FY08.
- Complete the Site 9 FS addendum, PRAP, and ROD in FY08.
- Complete the post injection groundwater monitoring at Site 3 in FY08-FY09.
- Complete ESD, FS addendum, and ROD for Site 3 in FY08.
- Finalize the Site 8 PRAP and ROD in FY08.

### MMRP

There are no MMRP actions scheduled for FY08 or FY09.

<b>FFID:</b>	TN421382058200	<b>Funding to Date:</b>	\$ 162.5 million
<b>Size:</b>	22,357 acres	<b>Est. CTC (Comp Year):</b>	\$ 53.3 million (FY 2039)
<b>Mission:</b>	Load, assemble, pack, ship, and demilitarize explosive ordnance	<b>IRP Sites (Final RIP/RC):</b>	40 (FY2010)
<b>HRS Score:</b>	58.15; placed on NPL in July 1987	<b>MMRP Sites (Final RIP/RC):</b>	3 (FY2014)
<b>IAG Status:</b>	IAG signed in 1989	<b>Five-Year Review Status:</b>	Completed and planned
<b>Contaminants:</b>	Munitions-related wastes, SVOCs, metals, explosives, propellants		
<b>Media Affected:</b>	Groundwater and Soil		



Milan, Tennessee

## Progress To Date

The Milan Army Ammunition Plant (AAP) handles explosive ordnance. EPA placed the installation on the NPL in July 1987, and the Army and EPA signed an interagency agreement (IAG) in 1989. In FY91, the Army discovered the explosive compound RDX in the City of Milan's municipal water supply wells. In FY94, the installation formed a Restoration Advisory Board (RAB). Representatives of the Army, the City of Milan, EPA, and the State of Tennessee completed a contingency plan to ensure that safe drinking water would be available to residents. The city completed a new drinking water well field in 1998 using funds provided by the Army. The installation completed 5-year reviews in FY01 and FY05.

Since FY87, preliminary assessments (PAs) and site inspection (SI) activities conducted at Milan AAP identified 25 sites requiring further investigation. Subsequent studies expanded the number of sites to 39. The installation grouped the sites into five operable units (OUs). To date, the installation has signed six Records of Decision (RODs). In FY03, the Army completed an inventory of the closed, transferred, and transferring (CTT) ranges and sites with unexploded ordnance (UXO), discarded military munitions, or munitions constituents. The cleanup progress at Milan AAP for FY03 through FY06 is detailed below.

In FY03, the installation continued operation of the OUs 1, 3, and 4 groundwater treatment systems. The composting of Line X contaminated soil proceeded on schedule. The Army completed an inventory of the CTT ranges and sites with UXO, discarded military munitions, or munitions constituents. The inventory identified one closed site totaling 263 acres within the installation's boundaries where there is possible UXO and medium explosives safety risk.

In FY04, the Army awarded a performance-based contract for the Installation Restoration Program (IRP) activities at Milan AAP. The installation signed an interim ROD for OU 5. The Army selected an interim ROD instead of a final ROD because it will address groundwater issues in the installationwide groundwater ROD. The installation continued operation of the OU 1, 3, and 4 groundwater treatment systems. The Army conducted pilot studies of carbohydrates used to biologically degrade explosive compounds in groundwater. The installation

completed a PA for the Military Munitions Response Program (MMRP) site and initiated the SI.

In FY05, the Army completed characterization of all explosives-contaminated soils within the Northern Industrial Areas of the facility. Milan AAP began injection of carbohydrates to determine treatment capability for a groundwater plume located within the OU 1/OU 2 area. The installation produced a conceptual site model report to begin evaluating a remedy for groundwater treatment. In addition, the installation completed a 5-year review and found no deficiencies. The Army submitted an SI report for comments for the MMRP sites. The installation attended partnership training sessions with the State, EPA, and Army, and established a charter to address issues that would allow expedited remediation of Milan AAP.

In FY06, Milan AAP completed soil characterization and excavation for all production lines. EPA Region 4 indicated concerns about statistically evaluated sampling procedures. The installation completed pre-design delineation of all off-site groundwater plumes. Additional delineation will be required during the design stage after three groundwater RODs are completed. The installation also developed and submitted a draft feasibility study (FS) for groundwater to the regulatory community. Comments were received from EPA and the State of Tennessee, which identified unresolved issues about RA objectives and preliminary remedial goals. A Tier II management was developed to facilitate the groundwater issues that have impeded the approval of the installationwide groundwater FS. Milan AAP also completed the SI report for the MMRP site. RAB members toured all groundwater treatment systems and bioremediation facilities.

## FY07 IRP Progress

Milan AAP made progress with plans to implement a soils interim ROD to address explosives-contaminated soils at the Northern Industrial Areas.

Technical issues delayed excavations efforts and the RA for OU 5. Regulatory issues delayed the ROD for OUs 1 and 3 groundwater treatment systems.

Regulatory issues delayed the FS for sitewide groundwater, and an explanation of significant differences for the OU 4 ROD.

## FY07 MMRP Progress

EPA Region 4 proposed that the MMRP be integrated into the IRP as a requirement to receive approval for the remedial action completion (RA-C) report for the OU 5 site.

## Plan of Action

Plan of action items for Milan Army Ammunition Plant are grouped below according to program category.

### IRP

- Submit RA-C report for OUs 3 and 4 Soils ROD in FY08.
- Complete FS for sitewide groundwater in FY08.
- Finalize groundwater RODs for OUs 1 and 3 groundwater treatment sites in FY08.
- Develop a ROD modification for OU 4 Regions 1 and 2 in FY08.
- Develop RA and site characterization for soils located at OU 5 in FY08.

### MMRP

- Generate an RI report in FY09.

<b>FFID:</b>	MS421382296600	<b>Funding to Date:</b>	\$ 0.0 million
<b>Size:</b>	4,214 acres	<b>Est. CTC (Comp Year):</b>	\$ 6.9 million (FY 2032)
<b>Mission:</b>	Managed, developed, tested, and manufactured the improved conventional munitions artillery	<b>IRP Sites (Final RIP/RC):</b>	46 (FY1990)
<b>HRS Score:</b>	N/A	<b>MMRP Sites (Final RIP/RC):</b>	2 (FY2018)
<b>IAG Status:</b>	None	<b>Five-Year Review Status:</b>	A 5-year review is not required for this installation.
<b>Contaminants:</b>	Metals and solvents		
<b>Media Affected:</b>	Groundwater and Soil		



Hancock County, Mississippi

**Progress To Date**

In 2005, the BRAC Commission recommended Mississippi Army Ammunition Plant (AAP) for closure. Mississippi AAP is the only ammunition plant built by the Army after the Korean Conflict. The War Department used the property previously in the 1940s as a bombing and gunnery range. From 1969-1980, Edgewood Arsenal conducted pyrotechnic testing at the Kellar Test Range. In 1978, the Army obtained an irrevocable 50-year permit and leased 7,148 acres from NASA to construct and operate Mississippi AAP on the John C. Stennis Space Center. In 1980, the U.S. Army Munitions Production Base Modernization Agency moved the range activities to a more remote location in order to allow the Kellar Test Range to continue its operations. In 1990, DoD placed Mississippi AAP on inactive status, and the equipment and facilities were placed in layaway. Production ceased in FY92, and DoD made the plant available to the private sector to provide or produce commercial services and products through facility-use contracts. Four amendments have been executed to the 50-year permit with NASA.

In FY93, a RCRA Facility Assessment identified solid waste management units and one area of concern. In FY97, the Army conducted additional studies of these sites. DoD has returned 2,934 acres to NASA. In FY03, the Army completed an inventory of all Military Munitions Response Program (MMRP) sites. The cleanup progress at Mississippi AAP for FY03 through FY06 is detailed below.

In FY03, the Army completed the Phase III Range Inventory and identified two MMRP sites. NASA completed the remedial investigation (RI) for the Old Kellar Test Range. The RI indicated that no further action (NFA) was required and NASA submitted NFA documentation to the Mississippi Department of Environmental Quality (MDEQ).

In FY04, NASA installed fencing around the area where it discovered buried metallic objects.

In FY05, the BRAC Commission recommended closure of Mississippi AAP.

In FY06, the Army initiated an environmental condition of property (ECP) report. The report includes a review of all

operations at Mississippi AAP. The Army identified two additional MMRP sites (the West Bomb Target and the High Altitude Bomb Target) that were part of the former Hancock Bombing and Gunnery Range.

**FY07 IRP Progress**

The Army completed the ECP and CERFA reports and submitted them to EPA and MDEQ. The Army requested and received concurrence by MDEQ on the Category 1 acreage. The site investigation field sampling plan was developed and coordinated with EPA and MDEQ, based on data gaps identified in the ECP report. Comments were received and incorporated, and field sampling commenced.

**FY07 MMRP Progress**

Mississippi AAP included the Spin Launch Test Site in the site investigation work plan and conducted fieldwork. The installation team conducted a document review of the NASA reports regarding the former Hancock Bombing and Gunnery Range targets and based on that review the Army determined that no further sampling would be conducted as part of the site investigation effort.

**Plan of Action**

Plan of action items for Mississippi Army Ammunition Plant are grouped below according to program category.

**IRP**

- Submit site investigation report to regulators in FY08.
- Initiate additional site investigations for non-NFA sites in FY08.

**MMRP**

- Continue further investigation of the Spin Launch Test Site in FY08.

<b>FFID:</b>	CA917002323800	<b>Media Affected:</b>	Groundwater, Surface Water, Sediment, Soil
<b>Size:</b>	3,097 acres	<b>Funding to Date:</b>	\$ 141.9 million
<b>Mission:</b>	Served as host to 7th Infantry Division (Light); supports the Defense Language Institute Foreign Language Center, currently at the Presidio of Monterey, California	<b>Est. CTC (Comp Year):</b>	\$ 68.7 million (FY 2040)
<b>HRS Score:</b>	42.24; placed on NPL in February 1990	<b>IRP Sites (Final RIP/RC):</b>	35 (FY2013)
<b>IAG Status:</b>	FFA signed in July 1990	<b>MMRP Sites (Final RIP/RC):</b>	None
<b>Contaminants:</b>	Pesticides, SVOCs, explosives, propellants, VOCs, petroleum hydrocarbons, heavy metals	<b>Five-Year Review Status:</b>	Planned



Sunnyvale, California

## Progress To Date

Moffett Field Naval Air Station (NAS) was headquarters of the Commander, Patrol Wings U.S. Pacific Fleet. At that time, Moffett Field NAS was the largest P-3 base in the world and was responsible for submarine patrol operations across the Pacific. In July 1991, the BRAC Commission recommended closure of the installation. The installation was closed on July 1, 1994 and transferred to NASA. The Naval Air Manor property was transferred to a neighboring city. The associated Moffett Community Housing (MCH) was transferred to the Army. EPA placed the installation on the NPL in July 1987. The Navy signed a federal facility agreement (FFA) in FY90, amended it in FY94, and revised it in FY01. Sites at the installation include landfills, underground storage tanks, a burn pit, ditches, holding ponds, wetland sediments, French drains, maintenance areas, and fuel spill sites. Contaminants include polychlorinated biphenyls (PCBs), petroleum products, DDT, chlorinated solvents, and heavy metals. The installation was divided into seven operable units (OUs). The installation completed a community relations plan (CRP) and established an information repository in FY89. In FY94, it formed a BRAC cleanup team and completed a BRAC cleanup plan, which was updated in FY97. The installation converted its technical review committee to a Restoration Advisory Board (RAB) in FY95. In FY02, the installation held a RAB forum for the Bay Area Community and the CRP was updated. In FY03, the installation completed 5-year review reports for two groundwater remedial sites; and completed a second 5-year review at Site 1 in FY07.

Installation Restoration Program (IRP) sites have been identified at Moffett Field NAS. In addition, the installation has completed several No Further Action Records of Decision (RODs). The installation has also completed RODs for OU 1, Sites 22, 26, 27, and 28. The installation has closed 35 petroleum sites. In FY02, the Navy completed an inventory of all Military Munitions Response Program (MMRP) sites. The cleanup progress at Moffett Field NAS for FY03 through FY06 is detailed below.

In FY03, the installation completed a 5-year review report for both the westside and eastside aquifer treatment systems. Additionally, the installation completed the proposed plan (PP) for Site 25 and initiated a time-critical removal action (TCRA) at the new source area, Hangar 1. The installation completed the

feasibility study (FS) for Site 27 and the remedial action (RA) for Site 22. The human health risk assessment (HHRA) at MCH was completed, although additional studies are needed to supplement the HHRA. An additional seven petroleum sites were closed.

In FY04, the installation completed the Hangar 1 TCRA and started work on the remedial investigation (RI) and FS work plan for Hangar 1. The installation completed the Site 27 PP. Optimization of the Sites 26 and 28 pump-and-treat systems began. The installation completed air sampling at MCH and a work plan drafted for the final phase of groundwater investigation. The installation received closure letters for petroleum sites from the California Regional Water Quality Control Board.

In FY05, the installation finalized the Moffett Field NAS Site 25 RI report addendum and submitted the draft FS report addendum for agency review and comment. The Navy finalized the Site 27 ROD and began the remedial design (RD) for RA. The installation continued the site management plan for delisting Moffett Field NAS from the NPL and support of the NASA-Navy memorandum of agreement.

In FY06, the installation developed and submitted an FS for Site 25. The installation also completed and implemented the Site 27 RD, and implemented optimization of the Site 26 pump-and-treat system. The Navy continued resolution of groundwater contaminant responsibility.

## FY07 IRP Progress

The Navy completed the second 5-year review at Site 1 and initiated a second 5-year review at Site 22. The installation identified Site 8 as a potential source of PCB contamination at Site 25. The Navy completed an FS at Site 25. Moffett Field NAS completed an RA and began preparations for an RA completion report at Site 27. The installation initiated partnering in the regional groundwater focused FS. The Navy prepared a revised engineering evaluation and cost analysis (EE/CA) at Site 29.

## FY07 MMRP Progress

The Navy has identified no MMRP sites at this installation.

## Plan of Action

Plan of action items for Moffett Field Naval Air Station are grouped below according to program category.

### IRP

- Continue long-term management in accordance with the ROD at Site 1 in FY08-FY09.
- Prepare PP and ROD at Site 8 in FY08-FY09.
- Complete a second 5-year review and continue long-term monitoring in accordance with the ROD at Site 22 in FY08-FY09.
- Prepare PP and ROD at Site 25 in FY08-FY09.
- Complete RA completion report and seek agency concurrence on site closeout at Site 27 in FY08-FY09.
- Finalize the revised EE/CA, prepare an Action Memorandum and RD documents, and implement the removal action at Site 29 in FY08-FY09.

### MMRP

There are no MMRP actions scheduled for FY08 or FY09.

<b>FFID:</b>	WA09799F331700	<b>Media Affected:</b>	Groundwater
<b>Size:</b>	9,607 acres	<b>Funding to Date:</b>	\$ 19.2 million
<b>Mission:</b>	Served as tactical air command, air transport, and strategic air command base; provided pilot training	<b>Est. CTC (Comp Year):</b>	\$ 0.3 million (FY 2009)
<b>HRS Score:</b>	50.00; placed on NPL in October 1992	<b>IRP Sites (Final RIP/RC):</b>	3 (FY2009)
<b>IAG Status:</b>	IAG signed in March 1999. RI/FS and Interim Remedial Actions required per the IAG are completed. EPA approved the final RI/FS on 13 September 2007.	<b>MMRP Sites (Final RIP/RC):</b>	None
<b>Contaminants:</b>	VOCs (specifically TCE)	<b>Five-Year Review Status:</b>	A 5-year review is not required for this installation.



Moses Lake, Washington

## Progress To Date

Larson Air Force Base (AFB) served as a Tactical Air Command base, then as a military air transport facility, and later as a Strategic Air Command base. The property was sold to the Port of Moses Lake in 1966 and is now operated by the Grant County Airport. Much of the former Larson AFB property served as a regional aviation, industrial, and educational facility. Environmental assessments, beginning in FY87, identified 4 sites that required further investigation: 11 underground storage tanks and associated potentially contaminated soil, a trichloroethylene (TCE)-contaminated groundwater plume, an area potentially containing low-level radioactive waste, and 2 disposal areas potentially containing tetraethyl lead. USACE identified these four sites as four projects at this property. EPA placed the property on the NPL in October 1992, and the Army and EPA signed an interagency agreement (IAG) in March 1999. The U.S. Army Corps of Engineers (USACE) established a Restoration Advisory Board at this property.

The cleanup progress for Moses Lake for FY03 through FY06 is detailed below.

In FY03, USACE completed the Skyline well replacement project and handed the well over to the owner. USACE completed the final remedial investigation (RI) report. USACE began a long-term management (LTM) program for domestic well owners on the southern edge of the plume. EPA continued to be an active participant in the restoration process and partnered with USACE and the public during all phases of the project.

In FY04, USACE continued the LTM program for domestic well owners to determine the impact of TCE in groundwater to residents with private wells in Moses Lake. USACE completed planning and initiated the execution of the nature and extent investigation (NEI) of TCE in the groundwater at Moses Lake. The IAG required the NEI as a supplement to the completed RI. USACE continued the surface soil operable unit (OU) feasibility study (FS). The groundwater OU FS preliminary work continued.

In FY05, USACE completed the NEI of TCE in groundwater at Moses Lake. The LTM/whole-house filter program for residents with private wells in Moses Lake continued. USACE completed

the draft versions of the groundwater OU FS and shallow soils OU FS, and submitted both to EPA. USACE submitted all deliverables required in the IAG between USACE and EPA.

In FY06, USACE provided ongoing litigation support to the Department of Justice regarding this property, and continued to work with EPA in support of the proposed plan (PP) and Record of Decision (ROD) process. Filters placed by USACE under the LTM/whole-house filter program continued to operate for private wells in Moses Lake. USACE revised the groundwater and shallow soils FSs. USACE completed a draft Archives Search Report for the project.

### FY07 IRP Progress

USACE maintained the five whole-house filters and continued the LTM annual sampling and analysis of water from these and other domestic area wells. USACE revised the groundwater and shallow soils FS. EPA approved the final RI/FS documents. USACE continued to provide support to EPA for the PP and ROD process. The cost of completing environmental restoration has changed significantly due to technical issues.

### FY07 MMRP Progress

USACE has identified no MMRP sites at this property.

### Plan of Action

Plan of action items for Moses Lake Wellfield Contamination Site are grouped below according to program category.

#### IRP

- Continue to provide oversight to the EPA for the PP and ROD process in FY08.
- Obtain signature for ROD in FY08.

#### MMRP

- There are no MMRP actions scheduled for FY08 or FY09.

<b>FFID:</b>	ID057212455700	<b>Est. CTC (Comp Year):</b>	\$ 4.5 million (FY 2013)
<b>Size:</b>	6,000 acres	<b>IRP Sites (Final RIP/RC):</b>	35 (FY2011)
<b>Mission:</b>	Provide composite combat air power worldwide	<b>MMRP Sites (Final RIP/RC):</b>	None
<b>HRS Score:</b>	NA; placed on NPL in August 1990	<b>Five-Year Review Status:</b>	Completed and planned
<b>IAG Status:</b>	FFA signed in January 1992		
<b>Contaminants:</b>	VOCs, POLs, heavy metals		
<b>Media Affected:</b>	Groundwater, Surface Water, Soil		
<b>Funding to Date:</b>	\$ 16.5 million		



Mountain Home, Idaho

**Progress To Date**

The mission of Mountain Home Air Force Base (AFB) is to provide composite combat air power worldwide. EPA placed the installation on the NPL in August 1990 and the Air Force signed a federal facility agreement (FFA) in January 1992. In 2005, the BRAC Commission recommended Mountain Home AFB for realignment. Sites identified at the installation include landfills, fire training areas, a fuel hydrant system spill area, disposal pits, surface runoff areas, wash racks, ditches, underground storage tanks, petroleum/oil/lubricant (POL) lines, and a low-level radioactive material disposal site. In FY94, the installation converted its technical review committee to a Restoration Advisory Board. In FY00, the installation updated the community relations plan. Mountain Home AFB completed 5-year reviews in FY01 and FY06.

To improve and accelerate site characterization, the installation grouped the sites into operable units (OUs). A Record of Decision (ROD) was signed for OUs 1, 3, 5, and 6; the lagoon landfill; and Fire Training (FT) Area 8. No further action (NFA) RODs have been signed for OUs 2 and 4. No Military Munitions Response program (MMRP) sites were identified at this installation during the inventory development. The cleanup progress at Mountain Home AFB for FY03 through FY06 is detailed below.

In FY03, the installation evaluated the results of the site inspection for the three areas of concern and determined that NFA was necessary. Monitoring of vapor ports commenced and monitoring of perched and regional groundwater continued. An additional regional aquifer groundwater well was installed to satisfy RCRA post-closure requirements at Site ST 13. Samples analyzed from two regional aquifer monitoring wells indicated isolated values for benzene and trichloroethylene (TCE), which exceeded maximum contaminant levels.

In FY04, the installation completed an interim remedial design and installed 10 new groundwater and vapor monitoring wells into the deep aquifer. Using wells installed in 2002, the installation continued remediation of shallow groundwater at Site ST 11, and continued to monitor volatized vapors from vadose zones at eight sites.

In addition, Mountain Home AFB continued to monitor perched groundwater and regional groundwater, and removed TCE-contaminated soils from hot spots at Site SD 24.

In FY05, Mountain Home AFB continued to monitor wells for fuel and TCE vapors at eight sites and conduct groundwater monitoring. The installation awarded a performance-based contract. The Air Force updated its MMRP inventory. No MMRP sites were identified at this installation during the inventory development.

In FY06, Mountain Home AFB completed a 5-year review and drafted an explanation of significant differences (ESD) for Landfills (LFs) 01 and 02. The installation continued to monitor wells for fuel and TCE in groundwater, and completed vapor intrusion sampling. The Air Force drafted an engineering evaluation and cost analysis for removal actions at Sites OT 16, LF 23, SD 27, and SS 29, and initiated pilot studies at FT 08, SS 11, ST 13, and SD 24.

**FY07 IRP Progress**

Mountain Home AFB completed an ESD for LFs 01 and 02 and removal actions at SS 29 and SD 27. A one-year pilot study for FT 08, SS 11, ST 13, and SD 24 was initiated. The installation completed a basewide indoor air vapor intrusion evaluation with regulator concurrence.

Technical issues delayed completing the remedial investigation (RI)/feasibility study (FS) amendment. Technical issues also delayed supplemental remedy removal action at LF 23 and completion of a one year pilot study for Sites FT 08, SS 11, ST 13, and SD 24. Regulatory issues delayed the supplemental removal action at Site OT 16.

**FY07 MMRP Progress**

The Air Force initiated a preliminary assessment (PA) at this installation.

**Plan of Action**

Plan of action items for Mountain Home Air Force Base are grouped below according to program category.

**IRP**

- Complete remedy enhancement at Sites FT 08, SSs 11 and 13, and SD 24 in FY08.
- Complete removal actions at LF 23 and Site OT 16 with regulatory concurrence in FY08.
- Complete risk assessment for soils in FY08.
- Complete RI/FS amendment on basewide groundwater in FY08.

**MMRP**

- Award MMRP contract to continue response actions.
- Complete PA in FY08.

<b>FFID:</b>	SC457002482100	<b>Funding to Date:</b>	\$ 56.1 million
<b>Size:</b>	3,937 acres	<b>Est. CTC (Comp Year):</b>	\$ 11.8 million (FY 2037)
<b>Mission:</b>	Served as host to a tactical fighter wing	<b>IRP Sites (Final RIP/RC):</b>	192 (FY2008)
<b>HRS Score:</b>	N/A	<b>MMRP Sites (Final RIP/RC):</b>	1 (FY2003)
<b>IAG Status:</b>	None	<b>Five-Year Review Status:</b>	Planned
<b>Contaminants:</b>	Paints, POLs, thinners, waste oils, SVOCs, explosives, propellants, spent solvents, fuels, VOCs, metals, asbestos		
<b>Media Affected:</b>	Groundwater, Surface Water, Sediment, Soil		



Myrtle Beach, South Carolina

**Progress To Date**

Myrtle Beach Air Force Base (AFB) housed a tactical fighter wing. In July 1991, the BRAC Commission recommended closure of Myrtle Beach AFB. On March 31, 1993, the installation closed. Sites identified at the installation include landfills, weathering pits, fire training areas, drainage ditches, hazardous waste storage areas, maintenance areas, underground storage tanks, explosive ordnance areas, fuel storage areas, a small-arms firing range, and a lead-contaminated skeet range. Contaminants include petroleum/oil/lubricants (POLs), heavy metals, and volatile organic compounds (VOCs). A joint management team assumed the role of a BRAC cleanup team (BCT) in FY93. The installation formed a Restoration Advisory Board (RAB) in FY94, and the BCT updated the BRAC cleanup plan (BCP) in FY96 and FY04.

The RCRA facility investigation work plan and fieldwork have been completed for six areas. In FY04, the Air Force conducted an inventory of Military Munitions Response Program (MMRP) sites. The cleanup progress at Myrtle Beach AFB for FY03 through FY06 is detailed below.

In FY03, the installation began investigation of a new groundwater site and initiated corrective measure implementations at four sites. Fourteen corrective measure studies (CMSs) and Statements of Basis (SBs) were modified and eight decision documents (DDs) were signed. Remediation at four fuel sites continued, as did groundwater monitoring and operations of existing systems. The installation shut down one active treatment system and moved the site into monitored natural attenuation (MNA). The Air Force reached a consent agreement with the State regarding land use control (LUC) issues, which allowed the installation to proceed with postponed documents.

In FY04, the installation initiated remedial actions (RAs) at one site. The installation completed four CMSs and SBs, including the associated public comment period, for three sites. The installation completed field investigations and issued a RCRA facility investigation for the POL site. Regulatory agencies provided approval to shut down a pump-and-treat system. The Air Force updated the BCP. The installation reached site closure on a fuel-contaminated site, optimized remedial

systems, and eliminated or reduced the monitoring frequency at several monitoring wells. The Air Force conducted an inventory of MMRP sites. MMRP sites were identified at this installation.

In FY05, Myrtle Beach AFB initiated final RAs at three sites. The installation issued draft documents for two CMSs, one SB, and four DDs. In addition, the installation closed an active treatment system and moved the site into MNA; discontinued monitoring at two landfills; and approved no further action (NFA) for one site. The installation also evaluated and implemented optimization actions at all sites with remedial systems operating or long-term management (LTM) ongoing. The installation performed annual inspections of LUCs. The Air Force began evaluating requirements at MMRP sites. Myrtle Beach AFB held three RAB meetings and conducted a site tour. The BCT held monthly meetings to discuss remedy implementation and maintenance, including LUCs.

In FY06, Myrtle Beach AFB continued RA implementation at three sites. The installation shut down one active treatment system; reactivation may be required if contamination rebound occurs. Two operating properly and successfully (OP&S) documents were approved. The installation reviewed and revised four DDs, one OP&S document, and two CMSs. The installation continued evaluating and implementing optimization actions at all sites that have active remedial systems and/or are undergoing LTM. A remedial process optimization review was completed. The installation performed annual inspections of LUCs. The installation initiated and continued additional investigations at the former explosive ordnance disposal (EOD) proficiency range site due to the discovery of inert munitions debris. Myrtle Beach AFB held two RAB meetings. The BCT held monthly meetings to discuss site remediation and property transfer.

**FY07 IRP Progress**

Myrtle Beach AFB continued to operate treatment systems, monitor groundwater, and perform LTM at sites basewide. Optimization actions were evaluated and implemented, and annual inspections of LUCs were also performed. The installation finalized one CMS, one SB, and one DD; and regulators approved NFA for one site and three OP&S documents. The implementation work plan format was approved, and final plans were issued for three sites.

Implementation of RAs was not complete due to changing site conditions after the first phases of the remedy implementations. Technical and administrative issues delayed completion of SB, DD, OP&S, and CMS documentation. The cost of completing environmental restoration has changed significantly due to changes in estimating criteria.

Two RAB meetings were held, and the BCT held monthly meetings to discuss site remediation and property transfer.

**FY07 MMRP Progress**

The Air Force completed investigation and all required removal actions at the former EOD proficiency range site.

**Plan of Action**

Plan of action items for Myrtle Beach Air Force Base are grouped below according to program category.

**IRP**

- Complete two SBs, six DDs, four OP&S documents, and one CMS in FY08.
- Complete RA implementation at three sites in FY08.
- Continue to operate treatment systems, monitor groundwater, and perform LTM at sites basewide in FY08-FY09.

**MMRP**

- Complete closeout documentation for the completed investigation and removal action at the former EOD proficiency range site in FY08.

<b>FFID:</b>	PR217004000300, PR217002758200	<b>Funding to Date:</b>	\$ 35.0 million
<b>Size:</b>	8,432 acres	<b>Est. CTC (Comp Year):</b>	\$ 72.4 million (FY 2012)
<b>Mission:</b>	Provided training and support to Atlantic Fleet operations in the Caribbean	<b>IRP Sites (Final RIP/RC):</b>	118 (FY2012)
<b>HRS Score:</b>	N/A	<b>MMRP Sites (Final RIP/RC):</b>	1 (FY2004)
<b>IAG Status:</b>	None	<b>Five-Year Review Status:</b>	5-year review not required for this installation
<b>Contaminants:</b>	Petroleum hydrocarbons, VOCs, SVOCs, PCBs, metals		
<b>Media Affected:</b>	Groundwater, Surface Water, Sediment, Soil		



Ceiba, Puerto Rico

### Progress To Date

Naval Station (NS) Roosevelt Roads was established in 1943 as a Naval Operations Base to provide training and support to Atlantic Fleet operations in the Caribbean. Since the early 1960s, NS Roosevelt Roads' major mission has been to support the Atlantic Fleet Weapons Training Facility's (AFWTF's) training missions on Vieques Island, located approximately 7.5 miles east of NS Roosevelt Roads. The Naval Training Range on Vieques was transferred to the Department of the Interior on May 1, 2003, and all AFWTF training activities have since ceased. In response to this action, NS Roosevelt Roads was closed on March 31, 2004. The real estate disposal/transfer is to be carried out in accordance with procedures outlined in BRAC 1990. In FY04, the Navy established Naval Activity (NA) Puerto Rico to serve as the caretaker of the real property associated with the former NS Roosevelt Roads and to assist in the transfer of the property. Prior to 1993, environmental activities, having to do with past suspected releases of hazardous constituents, were conducted in accordance with CERCLA regulations under the Navy's Installation Restoration Program (IRP).

To date, NA Puerto Rico has transferred 3,127 acres; 2,986 acres were transferred to the Commonwealth of Puerto Rico and 141 acres were transferred to the town of Ceiba. The cleanup progress at NA Puerto Rico for FY04 through FY06 are detailed below.

In FY04, following the closure of NS Roosevelt Roads and establishment of NA Puerto Rico, the Navy performed an environmental condition of property investigation to evaluate both the historic and recent operations at NS Roosevelt Roads as relating to compliance with environmental programs. The investigation identified 21 additional solid waste management units (SWMUs) and 1 Area of Concern (AOC).

In FY05, NA Puerto Rico completed a corrective measures study final report for SWMUs 7/8, 54, and 55, and initiated ecological risk assessment projects for SWMUs 1, 2, 9, and 45. The installation initiated a RCRA facility investigation (RFI) study for SWMU 14 and a corrective measures implementation plan (CMIP) for SWMUs 13, 46, 53, and AOC C. The installation initiated an RFI for Piñeros and Cabeza de Perro

Islands under the Military Munitions Response Program (MMRP).

In FY06, NA Puerto Rico initiated an RFI study for SWMUs 14, 16, and AOC A. The installation performed ecological risk assessment projects for SWMUs 1, 2, 9, and 45. The installation also completed an RFI study for SWMU 14. The Navy completed CMI's for SWMUs 46, 53, and AOC C. The installation performed a Phase I RFI anomaly location for Piñeros and Cabeza de Perro Islands. Additionally, the Navy completed a blow-in-place of munitions and explosives of concern (MEC) discovered during the Phase I RFI.

### FY07 IRP Progress

NA Puerto Rico signed RCRA 7003 Order, and terminated the RCRA Part B permit. NA Puerto Rico closed and capped the RCRA permitted landfill and initiated post-closure groundwater monitoring. NA Puerto Rico also closed the RCRA permitted Hazardous Waste Storage Facility. The Navy signed the Covenant Deferral Request and sent it to the Governor of Puerto Rico. NA Puerto Rico transferred two Parcels totaling 3,127 acres; 2,986 acres were transferred to the Commonwealth of Puerto Rico for conservation and 141 acres were transferred to the town of Ceiba for recreation purposes. NA Puerto Rico identified a new SWMU 78, and developed land use controls at 10 SWMUs. The installation implemented the Los Machos Mangroves Restoration Project.

Technical issues delayed completion of a CMI at SWMUs 9 and 13. Regulatory issues delayed transferring economic development conveyance and public benefit conveyance parcels to the Commonwealth of Puerto Rico.

NA Puerto Rico established the NA Puerto Rico Restoration Advisory Board.

### FY07 MMRP Progress

NAPR completed the detonation of various MEC items discovered on the main base. The installation completed Phase I RFI geophysical investigation at Piñeros Island.

### Plan of Action

Plan of action items for Naval Activity Puerto Rico are grouped below according to program category.

#### IRP

- Complete CMI at SWMU 13 in FY08.
- Transfer airport parcel, economic development conveyance parcels, and sale parcels I and II in FY08.
- Initiate Phase I RFI fieldwork at SWMU 74 in FY08.
- Issue CMI work plans for 6 SWMUs and RFI work plans for 12 SWMUs in FY08.
- Complete CMI at SWMU 9 in FY09.

#### MMRP

- Complete Phase I RFI anomaly identification at Piñeros Island in FY08.

<b>FFID:</b>	ME117002201800	<b>Funding to Date:</b>	\$ 77.9 million
<b>Size:</b>	7,259 acres	<b>Est. CTC (Comp Year):</b>	\$ 21.8 million (FY 2030)
<b>Mission:</b>	Provides facilities, services, materials, and aircraft for submarine warfare	<b>IRP Sites (Final RIP/RC):</b>	25 (FY2007)
<b>HRS Score:</b>	43.38; placed on NPL in July 1987	<b>MMRP Sites (Final RIP/RC):</b>	3 (FY2010)
<b>IAG Status:</b>	FFA signed in 1989; revised in 1990	<b>Five-Year Review Status:</b>	Completed and underway
<b>Contaminants:</b>	DDT, PCBs, PAHs, VOCs, SVOCs, metals		
<b>Media Affected:</b>	Groundwater, Surface Water, Sediment, Soil		



Brunswick, Maine

**Progress To Date**

Naval Air Station (NAS) Brunswick supports activities for submarine warfare. Site types include landfills, a groundwater plume contaminated with volatile organic compounds (VOCs), and two underground storage tank (UST) sites. Activities that contributed to contamination include intermediate aircraft maintenance, material support for maintenance, aircraft fueling services, storage and disposal of ordnance, and all-weather air station operations. Onsite landfills were used to dispose of wastewater treatment sludge, paints, solvents, medical supplies, pesticides, petroleum products, and photographic and industrial chemicals. EPA placed the installation on the NPL in July 1987, because some sites were used to store or dispose of hazardous waste. The installation signed a federal facility agreement (FFA) in 1989, which was revised in 1990 to include the State of Maine. The installation established an administrative record and information repository in FY87. During FY88, the community relations plan (CRP) was completed. A technical review committee was formed in FY88 and converted to a Restoration Advisory Board (RAB) in FY95. The installation conducted 5-year reviews in FY01 and FY05.

Studies conducted at the installation have identified Installation Restoration Program (IRP) sites. The installation completed a Record of Decision (ROD) to address the eastern groundwater plume, three USTs, and a waste pit. In addition, the installation has signed a ROD for Sites 4, 7, 9, 11, and 13 and a ROD for the eastern groundwater plume treatment plant. The installation has completed no further action documentation for Sites 14, 15, 16, and 18. In FY02, the Navy completed an inventory of Military Munitions Response Program (MMRP) sites. The cleanup progress at NAS Brunswick for FY03 through FY06 is detailed below.

In FY03, the Navy monitored sampling results for Building 95, eliminating maleic hydrazide from the long-term management plan (LTMP). The installation continued to develop an exit strategy for Building 95. The Navy conducted an additional investigation at Site 12 for possible perchlorate contamination and prepared a sampling plan for this effort. Diffusion sampling was accepted as an alternative to low flow sampling, resulting in cost and time savings. The installation initiated the LTMP for Site 7.

In FY04, the Navy continued to monitor sampling results for Building 95 as the exit strategy. The installation completed the LTMP and initiated sampling for Site 7. The Navy also initiated monitored natural attenuation for Sites 1 and 3 and the eastern plume. The Navy began optimization of the eastern plume remedy and contracted to install two new extraction wells to improve system effectiveness. In addition, the Navy planned to expand its investigation of Site 2. The Navy prepared and distributed the draft 5-year review.

In FY05, the Navy completed a 5-year review and continued to monitor sampling results at all sites. The installation demolished barracks at Site 9 and prepared an engineering evaluation and cost analysis to address underlying contaminated soil. The Navy found that extraction wells in the eastern plume were not necessary. NAS Brunswick completed a draft preliminary assessment (PA) to address regulatory issues.

In FY06, the Navy began the contaminant removal at Site 9. The Navy contracted work to install two extraction wells to supplement the ongoing groundwater treatment of the eastern plume, to investigate the area north of Sites 2 and 17 (Building 95), and to initiate fieldwork at the former explosive ordnance disposal site (Site 12). NAS Brunswick also began to develop and implement a work plan to delineate the extent of 1,4 dioxane, with planned modifications to the groundwater extractions and treatment system if necessary. NAS Brunswick completed the PA for existing MMRP areas of concern (AOCs). The Navy identified additional areas of concern, requiring PA/site inspection (SI). The Navy conducted technical subcommittee (TSC)/RAB meetings and conference calls.

**FY07 IRP Progress**

The Navy continued the contaminant removal at Site 9. The Navy installed a new extraction well to supplement the ongoing groundwater treatment of the Eastern Plume; a second well will be installed in FY2008. The Navy conducted field investigations at Mere Brook. The installation updated the LTMPs to incorporate the number and sampling periodicity of the monitoring wells. The Navy began a remedial investigation (RI) work plan to investigate the 1,4-dioxane contamination, and updated the administrative record file. In addition, an RI work plan for the area north of Site 2 was prepared and reviewed. The cost of completing environmental restoration has

changed significantly due to changes in estimating criteria.

Regulatory issues delayed completing the revised base instructions and institutional control (IC) boundaries for IRP sites. One extraction well was installed within the Eastern Plume; however, technical issues delayed the second. Technical issues delayed the closeout plan for Site 12, and the site is now being evaluated under the MMRP due to munitions concerns. Technical issues also delayed field investigations north of Sites 2 and 17.

The Navy conducted TSC and RAB meetings, initiated an update of the CRP, developed a public website, and published a newsletter.

**FY07 MMRP Progress**

The Navy completed the PAs and SI work plans.

SI fieldwork was delayed due to regulatory and technical issues and short Maine field season.

**Plan of Action**

Plan of action items for Naval Air Station Brunswick are grouped below according to program category.

**IRP**

- Install one extraction well in FY08.
- Complete revised base instruction and develop IC boundaries for IRP sites in FY08.
- Complete Site 9 contaminant removal action and initiate drainage pound investigation south of Neptune Drive in FY08-FY09.
- Conduct 1, 4-dioxane RI field investigation and prepare RI report in FY08-FY09.
- Complete background study work plan and begin fieldwork in FY08-FY09.
- Complete RI work plans for the expanded Site 2 area and Site 17, and begin fieldwork in FY08-FY09.

**MMRP**

- Begin SI fieldwork for MMRP AOCs and Site 12 in FY08-FY09.

<b>FFID:</b>	VA317002248200	<b>Funding to Date:</b>	\$ 29.3 million
<b>Size:</b>	2,147 acres	<b>Est. CTC (Comp Year):</b>	\$ 26.6 million (FY 2052)
<b>Mission:</b>	Provide logistics facilities and support services to meet the amphibious warfare training requirements of the Armed Forces	<b>IRP Sites (Final RIP/RC):</b>	39 (FY2013)
<b>HRS Score:</b>	50; placed on NPL in May 1999	<b>MMRP Sites (Final RIP/RC):</b>	1 (FY2010)
<b>IAG Status:</b>	FFA negotiations underway	<b>Five-Year Review Status:</b>	Planned
<b>Contaminants:</b>	Heavy metals, mixed municipal wastes, VOCs, SVOCs, explosives, propellants		
<b>Media Affected:</b>	Groundwater, Surface Water, Sediment, Soil		



Virginia Beach, Virginia

**Progress To Date**

Naval Amphibious Base (NAB) Little Creek provides logistics facilities and support services to meet the amphibious warfare requirements of the Armed Forces. Site types at this installation include landfills, a music equipment plating shop, a laundry waste disposal area, a pentachlorophenol (PCP) dip tank, sandblast yards, battery storage areas, and underground storage tanks. EPA placed the installation on the NPL in May 1999 because of the potential for contaminants in soil and groundwater to migrate to potential receptors. The installation signed a federal facility agreement (FFA) in FY04. The installation established a Restoration Advisory Board (RAB) in 1994 and completed a community relations plan (CRP) in FY02. Community and RAB members attended regular meetings and tours of Installation Restoration Program (IRP) activities. The Navy, EPA, and the Commonwealth of Virginia formed a partnership to address environmental cleanup at the facility and met frequently to track progress.

To date, six Records of Decision (RODs) have been finalized, and over 100 sites have been closed. In FY02, the Navy completed an inventory of all Military Munitions Response Program (MMRP) sites. The cleanup progress at NAB Little Creek for FY03 through FY06 is detailed below.

In FY03, the installation completed the draft remedial investigation (RI) for Sites 7 and 8. In addition, the installation completed the draft RI for Solid Waste Management Units (SWMUs) 3, 7, and 8. A facility background study and supplemental site assessment investigation was completed for Areas of Concern (AOCs) H, I, J, and Site 14. The installation also completed a no further action (NFA) closeout for Site 4.

In FY04, the installation signed an FFA, and over 100 sites were closed out upon signature. The installation finalized a remedial design (RD) and ROD for Sites 9 and 10. The installation completed final RIs for Sites 7 and 8; and SWMUs 7 and 8, and closed out SWMUs 96, 97, 98, and 119. The installation completed a final feasibility study (FS) for Site 12 and an engineering evaluation and cost analysis (EE/CA) and removal action for SWMUs 7 and 8. The Navy also implemented a pilot study for Sites 11a and 13.

In FY05, NAB Little Creek completed NFA RODs for SWMUs 7a and 8. The installation completed an EE/CA for Sites 7 and 8, and initiated construction for an interim remedial action (IRA). The installation completed an FS and ROD for Site 12. The installation initiated an FS for Site 11. The installation completed site screening assessments at SWMUs 5, 6, 13, and Site 6. SWMUs 18, 116, and AOC D were closed out with NFA. The Navy identified one Military Munitions Response Program (MMRP) site (former Morale Welfare and Recreation [MWR] Skeet Range) at the installation and submitted a draft preliminary assessment (PA) for regulatory review.

In FY06, NAB Little Creek completed an IRA for Site 8, and a treatability study report in lieu of a proposed plan and ROD for Sites 11a and 13. The installation also completed a vapor intrusion assessment, an FS, and a proposed RA plan for Site 11. The installation also completed an explanation of significant differences for Site 12. The Navy initiated an IRA for Site 7, a ROD for Site 11, and a vapor intrusion assessment for Sites 11a and 13. NAB Little Creek completed the site inspections (SIs) for multiple sites. The installation identified six potential MMRP sites during the PA of the MWR Skeet Range.

**FY07 IRP Progress**

NAB Little Creek completed the RODs for Sites 11 and 13. The installation also completed the RD and RA for Site 12, the Phase II RI for SWMU 3, and the IRA for Site 7. The cost of completing environmental restoration has changed significantly due to technical issues.

Regulatory issues delayed completion of the FS and ROD for Site 7.

**FY07 MMRP Progress**

NAB Little Creek completed the two PAs addressing at total of seven MMRP sites; three of these sites were recommended for NFA.

Regulatory issues delayed the SIs required at two sites.

**Plan of Action**

Plan of action items for Naval Amphibious Base Little Creek are grouped below according to program category.

**IRP**

- Complete RODs for Sites 7 and 8 in FY08.
- Implement RAs at Sites 11 and 13 in FY08.

**MMRP**

- Initiate SIs at four sites in FY08.

<b>FFID:</b>	CA917002757500	<b>Contaminants:</b>	Petroleum products, solvents, refuse, ordnance, incinerator wastes, VOCs, SVOCs, metals
<b>Size:</b>	1,527 acres	<b>Media Affected:</b>	Soil and Groundwater
<b>Mission:</b>	Served as an auxiliary airfield for operations from Moffett Field and other Navy facilities in the area; used for practice operations by the Army, Navy, Air Force, and Coast Guard during the 1970s and 1980s and as a research and development site by NASA	<b>Funding to Date:</b>	\$ 29.2 million
<b>HRS Score:</b>	N/A	<b>Est. CTC (Comp Year):</b>	\$ 2.9 million (FY 2012)
<b>IAG Status:</b>	None	<b>IRP Sites (Final RIP/RC):</b>	9 (FY2012)
		<b>MMRP Sites (Final RIP/RC):</b>	None
		<b>Five-Year Review Status:</b>	A 5-year review is not required for this installation.



Crows Landing, California

**Progress To Date**

The Naval Auxiliary Landing Field (NALF) at Crows Landing was commissioned in May 1943, and served primarily as an auxiliary airfield. The installation established an information repository in FY89. In July 1991, the BRAC Commission recommended closure of NALF Crows Landing. The installation was closed on July 1, 1994, and was transferred to NASA in FY94. In FY94, the installation formed a BRAC cleanup team (BCT) and completed a BRAC cleanup plan, which was updated in FY97. The installation developed an environmental business plan and a community relations plan (CRP), both of which were updated in FY01. The CRP was updated again in FY02.

To date, regulatory oversight agencies have concurred on no further action (NFA) status for eight Installation Restoration Program (IRP) sites. Congress authorized NASA to transfer the facility to Stanislaus County in FY99. To date, NAFL Crows Landing has transferred approximately 85 percent of the original acreage to the County. In FY02, the Navy completed an inventory of all Military Munitions Response Program (MMRP) sites. The cleanup progress at NALF Crows Landing for FY03 through FY06 is detailed below.

In FY03, the Navy continued groundwater extraction activities and removed more than 280 pounds of contaminant mass (primarily acetone and gasoline) from the Administration Area Plume (Site 17). The installation completed closure reports for underground storage tank (UST) Cluster (CL) 7 and UST CL 40, and the regulatory closure of those sites. Information was collected for the revised feasibility studies for IRP Sites 11 and 17. The administrative record and information repository were maintained. Plans for an in situ submerged oxygen curtain (iSOC) groundwater treatment demonstration project were completed. NFA status was achieved for UST CL 7 and UST CL 40. Approximately 19,000 tons of waste and construction debris were removed from IRP Site 11A (sewer systems) during a time-critical removal action (TCRA). A draft engineering evaluation and cost analysis, explosive safety submittal, and a work plan for a TCRA to remove approximately 14,000 tons of buried waste, ordnance, and construction debris from IRP Site 11 were completed. Five fact sheets were sent to the community members and other recipients on the CRP mailing list. The BCT meetings were conducted bimonthly.

In FY04, the Navy continued groundwater extraction activities near the site of a former dry well at the Administration Area Plume (IRP Site 17). In addition, a demonstration project was conducted using iSOC within IRP Site 17. The installation prepared a plan to conduct a groundwater investigation on the adjacent (downgradient) property and began development of the access agreement. The installation conducted routine groundwater monitoring activities and munitions evaluations at IRP Site 11. The Navy initiated investigation and response actions at IRP Site 11A. The installation issued four fact sheets and three public notices. The BCT meetings were conducted bimonthly. The BCT continued to partner, evaluate environmental cleanup, and approve the environmental master schedules for the installation.

In FY05, NALF Crows Landing completed the transitional groundwater extraction near the former dry well at the Administration Area Plume (IRP Site 17). In addition, the investigation of groundwater beneath adjacent property at IRP Site 17 was completed. The installation received regulatory closure on USTs 109 and 117, as well as the UST CL 2 area. Munitions and explosives of concern evaluations began in four areas at the installation. The iSOC demonstration project within IRP Site 17 was completed. The installation completed the removal action at IRP Site 11 (disposal pits). NALF Crows Landing issued an environmental business plan. The BCT continued to partner, evaluating the environmental program as well as approving the environmental master schedules for the installation. The installation issued two fact sheets, two public notices, and updated the CRP. NALF Crows Landing held a public meeting.

In FY06, NALF Crows Landing continued basewide groundwater monitoring at the installation, and prepared a TCRA action memorandum for excavation and confirmation sampling at IRP Site 11B. The installation prepared a work plan for additional groundwater investigation at the off-site property adjacent to Site 17.

**FY07 IRP Progress**

NALF Crows Landing conducted a TCRA for excavation and confirmation sampling at IRP Sites 11 and 11B. The installation completed an interim remedial action alternative evaluation and

work plan for removal action pilot study for IRP Site 17. The Navy continued groundwater monitoring at the installation including additional investigation at the off-site property adjacent to IRP Site 17. NALF Crows Landing disestablished groundwater monitoring wells except those for IRP Site 17 and UST CL 2 Area. The installation completed an NFA Memorandum for IRP Site 11A.

**FY07 MMRP Progress**

The Navy has identified no MMRP actions at this installation.

**Plan of Action**

Plan of action items for Naval Auxiliary Landing Field Crows Landing are grouped below according to program category.

**IRP**

- Complete TCRA after action report for IRP Sites 11 and 11B in FY08.
- Implement bioremediation pilot study for IRP Site 17 in FY08.
- Continue groundwater monitoring at IRP Site 17 in FY08.

**MMRP**

There are no MMRP actions scheduled for FY08 or FY09.

<b>FFID:</b>	HI917002438800	<b>Funding to Date:</b>	\$ 23.3 million
<b>Size:</b>	2,400 acres	<b>Est. CTC (Comp Year):</b>	\$ 29.5 million (FY 2014)
<b>Mission:</b>	Operate and maintain communications facilities and equipment for naval shore installations and fleet units in the eastern Pacific	<b>IRP Sites (Final RIP/RC):</b>	30 (FY2014)
<b>HRS Score:</b>	50.00; placed on NPL in May 1994	<b>MMRP Sites (Final RIP/RC):</b>	None
<b>IAG Status:</b>	Draft FAA cancelled	<b>Five-Year Review Status:</b>	Planned
<b>Contaminants:</b>	PCBs, metals, petroleum hydrocarbons, VOCs, SVOCs		
<b>Media Affected:</b>	Groundwater, Surface Water, Sediment, Soil		



Wahiawa and Lualualei, Hawaii

## Progress To Date

The Naval Computer and Telecommunications Area Master Station (NCTAMS), Pacific installation operates two facilities on the island of Oahu, but conducts industrial operations primarily at the main station and receiver site in Wahiawa and the Naval Radio Transmitting Facility in Lualualei. The restoration program has focused on those two facilities, where maintenance and operation of electrical transformers and switches have been the primary sources of contamination. The installation was placed on the NPL in May 1994 because polychlorinated biphenyl (PCB)-contaminated soil was detected in work and residential areas. Contamination with metals and petroleum hydrocarbons also resulted from the station's operating and maintenance activities. Two Restoration Advisory Boards were established because the installation consisted of two primary facilities. The final community relations plan was completed in FY95.

Installation Restoration Program (IRP) sites have been identified at NCTAMS, Pacific. The installation has completed no further action (NFA) documentation for Site 14 and underground storage tank Sites 6 and 22. In FY02, the Navy completed an inventory of all Military Munitions Response Program (MMRP) sites. The cleanup progress at NCTAMS, Pacific for FY03 through FY06 is detailed below.

In FY03, the installation completed draft work plans for the removal action at Sites 17, 18, and 20. In addition, the installation completed the remedial investigation (RI) fieldwork at Sites 6 and 24. The ecological risk assessment (ERA) for Sites 1, 2, 5, and 22 continued. The installation drafted verification planning documents to confirm the Eureka laboratory results at Sites 14 and 15.

In FY04, the installation completed removal actions at Sites 17, 18, and 20. Additionally, the installation completed draft reports for verification sampling to confirm Eureka laboratory results at Sites 14 and 15, and completed Step 3a ERA at Sites 1, 2, 5, and 22.

In FY05, NCTAMS, Pacific completed final reports for verification sampling to confirm Eureka laboratory results at Sites 14 and 15. The installation completed draft Step 3a ERA at Sites 6 and 24.

In FY06, NCTAMS, Pacific completed the RI reports for Sites 1, 2, 5, and 22. The installation also completed an NFA Record of Decision (ROD) for Site 22.

## FY07 IRP Progress

NCTAMS, Pacific completed a feasibility study (FS) and achieved remedy in place for Sites 1 and 2. The Navy completed an action memorandum and started interim removal actions for Site 5. The cost of completing environmental restoration has changed significantly due to technical issues.

Regulatory issues delayed the RI report for Sites 6 and 24, and the engineering evaluation and cost analysis for Site 24. Regulatory issues also delayed the NFA RODs for Sites 1, 2, and 5.

## FY07 MMRP Progress

The Navy has identified no MMRP sites at this installation.

## Plan of Action

Plan of action items for Naval Computer and Telecommunications Area Master Station, Pacific are grouped below according to program category.

### IRP

- Complete RI report for Sites 6 and 24 in FY08.
- Complete FS for Site 24 in FY08.
- Complete NFA RODs for Sites 1, 2, 5, 6, and 24 in FY08.
- Complete interim removal action for Site 5 in FY08.
- Complete FSs, proposed remedial action plans, and RODs for lower base sites in FY08.

### MMRP

There are no MMRP actions scheduled for FY08 or FY09.

# Naval Facilities on Vieques

## Formerly Vieques Naval Training Range and Naval Ammunition Support

NPL

<b>FFID:</b>	PR21730007400, PR217003172000, PR217006932100	<b>Contaminants:</b>	Pesticides, PCBs, gasoline, explosives, land waste oil, metals, VOCs, SVOCs, propellants
<b>Size:</b>	22,687 acres	<b>Media Affected:</b>	Groundwater, Surface Water, Sediment, Soil
<b>Mission:</b>	VNTR provided ground warfare and amphibious training for marines, naval gunfire support training, and air to ground training. NASD provided munitions storage for Atlantic Fleet training	<b>Funding to Date:</b>	\$ 77.6 million
<b>HRS Score:</b>	NA: placed on NPL in February 2005	<b>Est. CTC (Comp Year):</b>	\$ 253.1 million (FY 2022)
<b>IAG Status:</b>	FAA under negotiation	<b>IRP Sites (Final RIP/RC):</b>	16 (FY2012)
		<b>MMRP Sites (Final RIP/RC):</b>	2 (FY2018)
		<b>Five-Year Review Status:</b>	A 5-year review is not required for this installation.



Vieques, PR

### Progress To Date

The former Naval Facilities on Vieques consist of the former Naval Ammunition Support Detachment (NASD) on the western end of the island and the former Vieques Naval Training Range (VNTR) on the eastern half. Site types include underground storage tanks, open burning/open detonation areas, and munitions areas. In FY03, the Governor of Puerto Rico requested EPA list the former NASD and VNTR on the NPL; the installation was listed in February 2005. The installation converted the technical review committee (TRC) to a Restoration Advisory Board (RAB) in FY04.

The Navy has identified Installation Restoration Program (IRP) sites at the former NASD and former VNTR. Military Munitions Response Program (MMRP) sites have also been identified on the former VNTR. The Navy has transferred 8,114 acres of the former NASD to the Department of the Interior (DOI), the Municipality of Vieques, and the Puerto Rico Conservation Trust. The U.S. Fish and Wildlife Service (FWS) manages 4,000 of these acres as a National Wildlife Refuge. The Navy has also transferred 14,573 acres of the former VNTR to DOI to be operated and managed as a National Wildlife Refuge and Wilderness Area. The cleanup progress at Naval Facilities on Vieques for FY03 through FY06 is detailed below.

In FY03, the Navy completed a remedial investigation and feasibility study (RI/FS) at four sites at the former NASD, and the final baseline groundwater work plan for the former VNTR. In addition, the Navy completed the munitions investigation and report for Red and Blue Beach, and placed warning signs in restricted areas throughout the former VNTR.

In FY04, the Navy conducted Phase I fieldwork for the RI for 12 sites on the former VNTR, RI/FS reports for four sites at the former NASD, RI/FS investigations for two sites, and finalized the no further action (NFA) document for nine sites on the former NASD. The TRC was converted to a RAB. The installation completed a draft final expanded range assessment and site inspection (SI) work plan, and submitted the SI work plan for regulatory review.

In FY05, the Navy completed supplemental RI work plans for three former NASD sites (Areas of Concern [AOCs] E, I, and R) and received regulatory approval. The installation submitted

engineering evaluation and cost analyses for four former NASD sites (AOCs J and R, Solid Waste Management Units [SWMUs] 6, and 7). For the former VNTR, the Navy completed a preliminary assessment (PA)/SI work plan for eight photo-identified/potential AOC (PI/PAOC) sites and received regulatory approval. The Navy submitted a data summary report for the original RCRA sites. The Navy also completed a background soil investigation work plan for the former VNTR and received regulatory approval. The Navy initiated MMRP interim removal action at SWMU 4 for the former NASD. The installation conducted an MMRP SI and expanded range assessment for the former VNTR. The Navy conducted an MMRP surface removal action at discrete sites in the former live impact area (LIA) and specific beaches and roads at the former VNTR. The Navy completed a charter for the RAB.

In FY06, The Navy conducted RI/supplemental RIs at three former NASD sites (AOCs E, I, and R). The Navy also initiated a background soil investigation and PA/SI at eight PI/PAOC sites at the former VNTR. The Navy completed a time-critical removal action (TCRA) surface removal of munitions and explosives of concern (MEC) from 200 acres of the approximately 900 acres on the LIA. The Navy completed the work plan for the Phase II SI and expanded range assessment.

### FY07 IRP Progress

The Navy completed the RI report at four former NASD AOCs H, J, 6, and 7. The Navy initiated the RI at former NASD SWMU 4. The installation completed the background soil investigation report at the former VNTR. The Navy prepared NFA proposed remedial action plans for nine sites. The cost of completing environmental restoration has changed significantly due to technical issues.

The Navy also initiated PA/SIs for 12 former RCRA sites and eight PI/PAOC sites at the former VNTR; however, technical issues delayed completion. Regulatory issues delayed completing the RI report at former NASD sites AOCs E and I. Regulatory issues also delayed performing removal actions at former NASD AOCs J, R, and SWMUs 6 and 7.

### FY07 MMRP Progress

The Navy completed TCRA surface removal of MEC on 290

acres, on LIA and Eastern Conservation Area (ECA). A geophysical survey was conducted for 90 of 305 total beach and road acres to support subsurface removal of MEC at selected beaches and roads. The installation initiated an RI at former NASD SWMU 4, and conducted archaeological and biological assessments of ECA and Yellow Beach on the former VNTR and SWMU 4 on former NASD.

The Navy initiated burn plan in LIA and ECA on VNTR; however, regulatory issues delayed its completion. Regulatory issues also delayed conducting the Phase II SI for the former VNTR, and the work plans for subsurface MEC removal at selected beaches and roads. Technical issues delayed TCRA surface removal of MEC on 10 acres on the LIA.

### Plan of Action

Plan of action items for Naval Facilities on Vieques are grouped below according to program category.

#### IRP

- Perform removal actions at former NASD AOCs J, R, and SWMUs 6 and 7 in FY08.
- Initiate supplemental RI for the former NASD AOC R in FY08.
- Complete NFA Record of Decision for AOC H at former NASD in FY08.
- Initiate PA/SI at 16 additional PI/PAOC sites at the former VNTR in FY08.
- Complete RI report at former NASD sites AOCs E and I in FY08.
- Complete decision document for nine sites in FY08.
- Complete PA/SIs at 12 former RCRA sites and eight PI/PAOC sites in FY08-FY09.

#### MMRP

- Conduct the Phase II SI and archaeological and biological assessments for the former VNTR in FY08.
- Complete TCRA surface removal of MEC on 300 acres of the LIA and ECA in FY08.
- Initiate MEC removal at selected beaches and roads in FY09.

<b>FFID:</b>	CA917002756300	<b>Funding to Date:</b>	\$ 31.0 million
<b>Size:</b>	416 acres	<b>Est. CTC (Comp Year):</b>	\$ 25.3 million (FY 2011)
<b>Mission:</b>	Supply and provide bulk storage of various grades of petroleum fuel product for fleet	<b>IRP Sites (Final RIP/RC):</b>	4 (FY2011)
<b>HRS Score:</b>	N/A	<b>MMRP Sites (Final RIP/RC):</b>	None
<b>IAG Status:</b>	None	<b>Five-Year Review Status:</b>	A 5-year review is not required for this installation.
<b>Contaminants:</b>	Petroleum products, VOCs, SVOCs		
<b>Media Affected:</b>	Groundwater and Soil		



Richmond, California

**Progress To Date**

The Naval Fuel Depot (NFD), Point Molate supplies and provides bulk storage of fuel for the fleet. Operations at the installation included bulk storage and supply of fuel products, including JP-5, JP-7, and diesel, and Bunker C. Contaminants of concern include petroleum hydrocarbons, polycyclic aromatic hydrocarbons (PAHs), volatile organic compounds (VOCs), and semi-volatile organic compounds (SVOCs) in soil and groundwater. There are 13 disposal areas at Point Molate. In July 1995, the BRAC Commission recommended closure of NFD, Point Molate. A Restoration Advisory Board (RAB) was formed in 1996.

Nine disposal areas (1, 2, 4, 6, 7, 8, 9, 11, and 12), consisting of 364 acres, were transferred to the City of Richmond in 2003. Two Records of Decision (RODs) have been signed to date. In FY02, the Navy completed an inventory of all Military Munitions Response Program (MMRP) sites. The cleanup progress at NFD, Point Molate for FY03 through FY06 is detailed below.

In FY03, the installation completed a human health risk assessment/ecological risk assessment at Site 4 and significantly reduced the boundaries of Site 4. The quarterly groundwater and methane monitoring continued at Site 1. An oil-water separator was installed at Site 1. The groundwater extraction continued at Site 3 and the removal began for the three treatment ponds at Site 3. The installation also initiated feasibility studies (FSs) at Installation Restoration Program (IRP) Sites 1, 3, and 4, and investigated the pipes and tanks on the pier. The biannual basewide groundwater monitoring continued. The BRAC Cleanup Team (BCT) agreed to stop the Site 3 engineering evaluation and cost analysis and action memorandum, and proceed with developing an FS, proposed plan (PP), and ROD for Site 3. The installation revised a community involvement plan. The RAB held a community site tour.

In FY04, the installation completed the Site 3 treatment ponds removal and the Site 1 FS and PP. It also began the environmental and structural closure of the 22 underground storage tanks (USTs), pipelines, and valve boxes. The installation began a groundwater beneficial use evaluation (BUE) study. Basewide groundwater monitoring and landfill methane monitoring continued. The groundwater extraction

continued at Site 3. The installation initiated the Site 3 and Site 4 FSs and PPs. The BCT continued to partner and evaluate the environmental cleanup at the installation and approved the environmental master schedule for the installation.

In FY05, NFD, Pointe Molate completed the environmental and structural closure of the 22 USTs, pipelines, and valve boxes. The Navy received concurrence on the structural closure from the regulatory agencies. The installation completed the groundwater BUE with concurrence from the regulatory agencies. The Navy completed and signed the Site 1 ROD. In concurrence with the regulatory agencies, the installation changed the strategy for Site 4 and completed a risk assessment technical memorandum (RATM) to complement previous documents, instead of an FS. Basewide groundwater monitoring and landfill methane monitoring continued.

In FY06, NFD, Point Molate continued to monitor the Site 1 landfill. The Navy completed the Site 1 remedial design and construction and operation of a filtration system. The installation initiated closure of four Navy USTs on adjacent land the Navy formerly leased from a private landowner. The Navy began early transfer and environmental strategy discussions with the local reuse authority in regards to the remaining 52 acres on NFD, Point Molate. The installation also updated the environmental master schedule.

**FY07 IRP Progress**

NFD, Point Molate completed the removal and closure of four Navy USTs on adjacent private property. The Navy continued to monitor the Site 1 landfill. In collaboration with the regulatory agencies, the Navy completed a product mobility and recovery study, and fuel fingerprinting at Site 3 to aid in completion of the FS and corrective action plan (CAP). The installation conducted structural integrity inspections of the 20 remaining large USTs, and received environmental closure on two. NFD, Point Molate continued basewide groundwater monitoring. The Navy continued early transfer discussions with the local reuse authority.

Regulatory issues delayed the completion of the Site 3 final FS, PP, and corrective action plan, and the completion of the Site 4 RATM and PP.

NFD, Point Molate RAB conducted a community site tour.

**FY07 MMRP Progress**

The Navy has identified no MMRP sites at this installation.

**Plan of Action**

Plan of action items for Naval Fuel Depot, Point Molate are grouped below according to program category.

**IRP**

- Complete the Site 3 final FS, PP, and CAP in FY08.
- Continue Site 1 landfill monitoring in FY08.
- Finalize the Site 4 RATM in FY08.
- Obtain environmental closure on the remaining USTs in FY08.

**MMRP**

There are no MMRP actions scheduled for FY08 or FY09.

<b>FFID:</b>	RI117002424300	<b>Est. CTC (Comp Year):</b>	\$ 45.9 million (FY 2041)
<b>Size:</b>	1,400 acres	<b>IRP Sites (Final RIP/RC):</b>	29 (FY2014)
<b>Mission:</b>	Provide logistical support and serve as a training center	<b>MMRP Sites (Final RIP/RC):</b>	2 (FY2014)
<b>HRS Score:</b>	32.25; placed on NPL in November 1989	<b>Five-Year Review Status:</b>	Completed and planned
<b>IAG Status:</b>	FFA signed in March 1992		
<b>Contaminants:</b>	PCBs, POLs, VOCs, SVOCs, metals		
<b>Media Affected:</b>	Groundwater, Surface Water, Sediment, Soil		
<b>Funding to Date:</b>	\$ 96.4 million		



Newport, Rhode Island

## Progress To Date

Naval Station Newport (formerly known as the Newport Naval Education and Training Center) was used as a refueling depot from the early 1900s until after World War II, when it was restructured to support research and development and provide specialized training. Contaminants at the installation include petroleum/oil/lubricant (POL) sludge associated with tank farm sites, waste acids, solvents, and polychlorinated biphenyls (PCBs) in landfills used to dispose of general refuse and shop wastes. The installation was placed on the NPL in November 1989. It signed a federal facility agreement (FFA) in March 1992. The installation formed a technical review committee in FY88 and converted it to a Restoration Advisory Board (RAB) in FY95. A community relations plan was completed in FY90, and the installation established an ecological advisory board. The installation completed 5-year reviews in FY99 and FY04.

The installation completed Record of Decision (ROD) documents for the landfill cap and the Site 1 offshore area. The installation also submitted an interim ROD for Tank Farm Number 5. In FY02, the Navy completed an inventory of all Military Munitions Response Program (MMRP) sites. The cleanup progress at Naval Station Newport for FY03 through FY06 is detailed below.

In FY03, the Navy completed a total petroleum hydrocarbons (TPH)- and PCB-contaminated soil removal action on Gould Island. The Navy removed 207 tons of TPH-contaminated soils with concentration greater than 5,000 parts per million (ppm) and 8,632 tons of TPH-contaminated soils with concentration less than 5,000 ppm. In addition, the Navy treated and discharged 326,416 gallons of TPH-contaminated water. The Navy removed 693 tons of PCB-contaminated soil and treated and discharged 70,000 gallons of PCB-contaminated water from the excavation. The installation submitted the draft remedial investigation (RI) work plan for the field investigation at Site 17 to regulatory agencies. The Navy began the preliminary assessment (PA) study for potential MMRP sites at the installation. The internal draft PA report was prepared. The Navy identified unexploded ordnance (UXO) 000001 Carr Point Shooting Range as an eligible MMRP site that will need further investigation, based on initial review. An additional UXO site, Sachuest Point Rifle Range, was also identified, but it was determined that this property fell under the FUDS program. The

Navy held a public meeting to discuss an onshore soil removal action at Site 9.

In FY04, the installation performed a site inspection (SI) at Site 4. For Site 8, the installation prepared the draft and draft final study area screening evaluation (SASE) reports, finalized the background study work plan, and awarded a removal action to remove several drums and paint cans discovered during the study area screening assessment. For Site 9, the installation completed the pre-design investigation for the soil removal action, and awarded the first phase of a soil removal action to remove three soil mounds approximating 11,000 cubic yards. It also developed a draft sediment and groundwater monitoring work plan. The installation completed the SI work plan for Sites 12 and 13, and the RI work plan for Site 17. For Site 19, sediment sampling was completed and will be used to update and finalize the feasibility study for the offshore area. For Site 20, a draft SASE was prepared. A 5-year review was completed. The installation prepared the draft, draft final, and final PA for the Carr Point Shooting Range. The draft final report recommended no further action. The RAB met nine times, including a bus tour of the Installation Restoration Program (IRP) sites.

In FY05, Naval Station Newport initiated Site 12 and Site 13 SIs. The installation completed the Site 17 RI fieldwork. The installation completed the Site 20 study area screening assessment. Removal action for Site 8 was completed. Under the MMRP, the installation finalized the PA for the Carr Point Shooting Range, which recommended proceeding to the SI phase.

In FY06, Naval Station Newport completed the optimization review for Site 9. BRAC 2005 legislation transitioned responsibility for the IRP program to Naval Facilities Engineering Command Mid-Atlantic.

## FY07 IRP Progress

The Navy completed annual long-term operation (LTO) activities at Site 1 and finalized an interim remedial action (IRA) work plan for removal of petroleum-contaminated soils at Site 9. The Navy also completed RI field activities, submitted a final RI report, and initiated development of the Phase II RI work plan for Site 17. The Navy completed an IRA at Site 19 to remove

sandblast grit, and an IRA at Site 21 to remove lead-contaminated soils located on a Navy-owned parcel adjacent to an elementary school.

The Navy completed an IRA to remove paint cans and drums, finalized an RI work plan, and initiated RI fieldwork at Site 8; however, regulatory issues delayed the completion of the fieldwork.

The Navy also conducted six remedial program manager meetings with EPA and the State of Rhode Island, and conducted six RAB meetings.

## FY07 MMRP Progress

The Navy completed the contract award for an SI at UXO Site 1 Carr Point Shooting Range, and completed and submitted the draft SI work plan to regulators; however, funding issues prevented completion of SI fieldwork.

## Plan of Action

Plan of action items for Naval Station Newport are grouped below according to program category.

### IRP

- Conduct annual LTO activities at Site 1 in FY08-FY09.
- Complete RI fieldwork activities at Site 8 in FY08-FY09.
- Complete IRA fieldwork activities at Site 9 in FY08-FY09.
- Complete Phase II RI fieldwork activities at Site 17 in FY08-FY09.

### MMRP

- Finalize SI work plan, implement SI fieldwork, and submit SI report to regulators for UXO Site 1 Carr Point in FY08-FY09.

<b>FFID:</b>	WA09799F345500	<b>Est. CTC (Comp Year):</b>	\$ 0.1 million (FY 2009)
<b>Size:</b>	191 acres	<b>IRP Sites (Final RIP/RC):</b>	1 (FY2009)
<b>Mission:</b>	Served as shipbuilding facility and reserve shipyard	<b>MMRP Sites (Final RIP/RC):</b>	None
<b>HRS Score:</b>	Unknown	<b>Five-Year Review Status:</b>	A 5-year review is not required for this installation.
<b>IAG Status:</b>	None		
<b>Contaminants:</b>	Mercury, VOCs, PNAs, PCBs, heavy metals, arsenic, lead		
<b>Media Affected:</b>	Groundwater, Sediment, Soil		
<b>Funding to Date:</b>	\$ 0.3 million		



Tacoma, Washington

### Progress To Date

The Naval Station Todd-Tacoma shipyard is located on Commencement Bay between Hylebos and Blair Waterways in Tacoma, Washington. The Navy acquired the 191-acre facility between 1942 and 1948. Beginning in 1940, the western portion of the property, approximately 74.2 acres and owned at that time by Seattle-Tacoma Shipbuilding Corporation (later called Todd Pacific Shipyards, Inc., Tacoma Division), was rapidly developed to support the war effort. The Navy and the Maritime Commission acquired adjacent land to expand the plant. By October 1942, the Maritime Commission had transferred all of its contractual and facility interests to the Navy. Land acquisitions continued until the end of the war, and the facility expanded to 191 acres. After the war, the property was designated a Naval Industrial Reserve Shipyard, and shipbuilding ceased. In September 1948, the Navy acquired the Todd-owned property. In October 1958, DoD declared the property excess. The Navy and Marine Reserve Training Center retained eight acres, and the remaining property was conveyed to the Port of Tacoma in January 1960.

The cleanup progress for Naval Station Todd-Tacoma for FY03 through FY06 is detailed below.

In FY03, a U.S. District Judge signed a consent decree that included DoD and other federal agencies. The U.S. Army Corps of Engineers (USACE) continued to assist the Office of Counsel and Department of Justice (DOJ) with settlement negotiations.

In FY04, USACE continued to assist with ongoing negotiations. USACE completed investigations that identified no Military Munitions Response Program (MMRP) sites at this property.

In FY05, USACE continued to assist with ongoing settlement negotiations.

In FY06, USACE continued to assist the Office of Counsel and DOJ with ongoing settlement negotiations.

### FY07 IRP Progress

USACE continued to assist the Office of Counsel and DOJ with ongoing settlement negotiations. The cost of completing environmental restoration has changed significantly due to changes in estimating criteria.

### FY07 MMRP Progress

USACE has identified no MMRP sites at this property.

### Plan of Action

Plan of action items for Naval Station Todd-Tacoma are grouped below according to program category.

#### IRP

- Continue to assist the Office of Counsel and DOJ with settlement negotiations in FY08.

#### MMRP

- There are no MMRP actions scheduled for FY08 or FY09.

<b>FFID:</b>	VA317002468500	<b>Funding to Date:</b>	\$ 63.4 million
<b>Size:</b>	2,677 acres	<b>Est. CTC (Comp Year):</b>	\$ 6.3 million (FY 2015)
<b>Mission:</b>	Proof and test ordnance	<b>IRP Sites (Final RIP/RC):</b>	68 (FY2010)
<b>HRS Score:</b>	50.26; placed on NPL in October 1992	<b>MMRP Sites (Final RIP/RC):</b>	None
<b>IAG Status:</b>	FFA signed in September 1994	<b>Five-Year Review Status:</b>	Completed and planned
<b>Contaminants:</b>	Heavy metals, explosives residues, low-level radioactive materials, mercury, Cleaning solvents, PCBs, pesticides, VOCs, SVOCs, explosives, propellants		
<b>Media Affected:</b>	Groundwater, Surface Water, Sediment, Soil		



Dahlgren, Virginia

## Progress To Date

The Dahlgren Naval Surface Warfare Center changed its name in FY05 to the Naval Support Facility, Dahlgren (Dahlgren) to reflect integration into the Naval District Washington Region. Dahlgren conducts ordnance testing for the Navy. Site types include former landfills, former ordnance burning and disposal areas, underground storage tanks, operating ordnance ranges, and operating ordnance research and development areas. The installation established an information repository and an administrative record in FY91. EPA placed the installation on the NPL in October 1992 because of potential migration of releases from three contaminated sites. These releases could affect the Potomac River, Gambo Creek, associated wetlands, and local groundwater aquifers used for drinking water. Ordnance testing operations contributed to the contamination. A federal facility agreement (FFA) was signed in September 1994. In 2005, the BRAC Commission recommended Dahlgren for realignment. In FY92, a community relations plan was completed, and the installation formed a technical review committee (TRC). In FY95, the TRC was converted to a Restoration Advisory Board (RAB). The installation completed 5-year reviews in FY03, FY04, and FY05.

To date, Dahlgren has completed Records of Decision (RODs) for 20 sites. In FY02, the Navy completed an inventory of all Military Munitions Response Program (MMRP) sites. The cleanup progress at Dahlgren for FY03 through FY06 is detailed below.

In FY03, the installation completed two remedial investigation and feasibility studies (RI/FSs), two proposed plans (PPs), and two RODs for Sites 31 and 55. The Navy completed the 5-year review for Site 2. The installation completed the Site 46 remedial action (RA) and began the Site 6 RA. The installation also initiated the Site 37 remedial design (RD). The Navy initiated a treatability study (TS) using the in situ Multiple Application Gas Nutrient System (Magnus System) to inject nutrients into the groundwater at Site 12. The additional planned RD was not required.

In FY04, the installation completed three RIs (Sites 32, 37, and 61), two FSs (Sites 32 and 37), two PPs, and two RODs for Sites 32 and 37. The Navy completed the 5-year review for Sites 9, 10, 12, and 17. The installation completed the Site 6

RA and began construction on the Site 47 completed interim RA (IRA). The Site 37 RD was submitted. The Magnus System TS continued at Site 12. The installation completed annual wetland monitoring reports for Sites 9/58, 17, 25, 46, and 50. The installation completed IRAs for Sites 43 and 52. The installation initiated the IRA for Site 61 and completed site screenings for four sites (Sites 14, 15, 38, and 57).

In FY05, the Navy completed a comprehensive 5-year review for annual wetland monitoring sites, an RD for Site 37, and an annual wetland monitoring report for Sites 6, 9, 17, 25, 46, 50, and 58. Dahlgren completed an RI/FS, a PP, and a ROD for Site 62. The installation completed IRAs for Sites 47b and 61b. The Navy finalized two closeout documents for no further action at Sites 38 and 40. The installation completed RIs for Sites 20 and 61a and conducted removal actions at Sites 4 and 15. The Navy utilized diffusion bag technology for groundwater sampling in order to assist with volatile organic chemical (VOC) contamination concentrations at Site 20. Two RAB meetings were held, and a presentation was made to the King George Board of Supervisors on the status of the remediation efforts at Dahlgren.

In FY06, Dahlgren completed an annual wetland monitoring report for Sites 6, 9, 17, 25, 46, 50, and 58, an Appendix B closeout report for Solid Waste Management Unit 128 oil-water separator 1121, initiated and completed the Site 9 marsh cap repair, and installed a temporary methane gas intercept trench with gas monitoring wells. The Navy completed the ROD amendment and revised RD for Site 37, and initiated an RA. Dahlgren completed an engineering evaluation and cost analysis for Site 14. The installation has planned additional trenching and soil screening at Site 61a prior to recommendation of a final remedy. The Navy also developed a new remediation team. The Navy held a public meeting to present the Site 37 amended PP, and a RAB meeting was conducted.

## FY07 IRP Progress

Dahlgren completed an FS and PP for Sites 20 and 23, and one closeout document for Sites 47a and 47b. The Navy awarded and initiated an IRA for Site 14. The Navy awarded an RA and IRA for Sites 20 and 23, respectively. The installation completed and signed an explanation of significant

differences (ESD) for Site 12, and completed an annual wetland monitoring report (WMR) for Sites 2, 9, 17, 25, and 50. The cost of completing environmental restoration has changed significantly due to technical issues.

Technical issues delayed the ROD at Sites 20 and 23, and the RA at Site 37.

The Navy held a public meeting to present the Site 12 ESD, and Sites 20 and 23 PP. The Navy also held a RAB meeting.

## FY07 MMRP Progress

The Navy has identified no MMRP sites at this installation.

## Plan of Action

Plan of action items for Naval Support Facility, Dahlgren are grouped below according to program category.

### IRP

- Initiate IRAs for Sites 4 and 15 in FY08.
- Complete soil RA at Site 20 UST, and Site 23 in FY08.
- Initiate the groundwater RA for Sites 20 and 23 in FY08.
- Complete the IRA for Site 14 in FY08.
- Conduct RAB meetings in FY08-FY09.
- Complete annual wetland monitoring reports for Sites 2, 4, 9, 15, 17, 25, and 50 in FY08-FY09.

### MMRP

There are no MMRP actions scheduled for FY08 or FY09.

<b>FFID:</b>	CA917002452800	<b>Media Affected:</b>	Groundwater, Surface Water, Sediment, Soil
<b>Size:</b>	13,023 acres	<b>Funding to Date:</b>	\$ 75.5 million
<b>Mission:</b>	Shipped, received, inspected, and classified munitions (tidal area); served as munitions storage and weapons maintenance, inspection, and testing facility (inland area)	<b>Est. CTC (Comp Year):</b>	\$ 138.7 million (FY 2019)
<b>HRS Score:</b>	50.00; placed on NPL in December 1994	<b>IRP Sites (Final RIP/RC):</b>	62 (FY2013)
<b>IAG Status:</b>	FFA signed in June 2001	<b>MMRP Sites (Final RIP/RC):</b>	12 (FY2018)
<b>Contaminants:</b>	Heavy metals, petroleum hydrocarbons, VOCs, SVOCs, explosives, propellants	<b>Five-Year Review Status:</b>	Planned



Concord, California

## Progress To Date

In 2005, the BRAC Commission recommended closure of Naval Weapons Station (NWS) Seal Beach, Detachment Concord (SBDC). NWS SBDC ships, receives, inspects, and classifies munitions. It also serves as a munitions storage and weapons maintenance, inspection, and testing facility. Past operations, such as disposal of paints and solvents, spent ordnance, treated wood, and household and industrial waste; open burning of munitions; and spills or leaks from fuel storage tanks contributed to contamination. These sites interconnect to Suisun Bay and include sensitive habitat for threatened and endangered species. EPA placed the installation on the NPL in December 1994, due to surface water and sediment contamination at tidal and litigation-area sites. In FY90, the installation formed a technical review committee, which converted to a Restoration Advisory Board (RAB) in FY95. The Navy and EPA signed a federal facility agreement (FFA) in June 2001. The RAB received a technical assistance for public participation (TAPP) award in FY03. In FY03, the installation updated the community relations plan (CRP) and finalized the 5-year review for the seven litigation-area sites.

The Navy has completed 15 Records of Decision (RODs) and recommended 20 sites for no further action (NFA). As a result of BRAC 2005, the Tidal Area will be realigned to the Army and the Inland Area is scheduled to close. The Navy conducted an inventory of Military Munitions Response Program (MMRP) sites in FY02. The cleanup progress at NWS SBDC for FY03 through FY06 is detailed below.

In FY03, the installation finalized the 5-year review for the seven litigation area sites and concluded that the remedy was not protective in certain areas. Three sites were recommended for a supplemental feasibility study (FS). A revised draft final remedial investigation (RI) report was issued for the three tidal area sites, which required additional characterization. The Area of Concern 1 time-critical removal action (TCRA) was completed, and the final TCRA summary report issued. EPA approved the draft final annual amendment to the site management plan. Eight MMRP sites were identified for preliminary assessments (PAs). The CRP was updated and finalized, with input from the RAB and regulators. The RAB received an award under the Navy's TAPP program and began work.

In FY04, the Navy, EPA, and the State signed the Site 1 ROD after dispute resolution and initiated a groundwater sampling plan. The Navy initiated the sampling plan for investigating groundwater at Site 1, and the remedial design (RD). RAB membership increased to nine and monthly meetings continued.

In FY05, the Navy completed the Site 1 landfill cap RD and initiated remedial action. The Navy completed a treatability study in the litigation areas. The Navy performed data gap sampling at Sites 2, 9, and 11, and found that additional work was required. The Navy completed an engineering evaluation and cost analysis and a non-TCRA (NTCRA) memo for Site 30. Also, the Navy initiated the MMRP PA and issued a draft report for review.

In FY06, NWS SBDC transitioned management of Sites 13, 17, 22, 27, 29, and Solid Waste Management Units (SWMUs) 2, 5, 7, and 18 under BRAC 2005. The Navy signed an NFA ROD for Site 17. The installation began the Site 30 NTCRA work plan and finalized additional data gap sampling work plan for Site 11. The Navy began RI sampling at Site 31 and resolution of a litigation area FS informal dispute. The Navy began to transition environmental cleanup of the Tidal Area sites to the Army. The installation submitted a draft RI report for Site 22 and a draft pilot test work plan for SWMUs 2, 5, 7, and 18. The Navy completed the draft final MMRP PA and awarded the contract to begin the site inspection (SI) work plan. The RAB reviewed site characterization documents, and coordinated transition of cleanup.

## FY07 IRP Progress

NWS SBDC prepared a revised FS and conducted a groundwater treatment pilot study to evaluate solvent cleanup technology for SWMUs 2, 5, 7, and 18. The installation completed an RI/FS report for Site 22. The Navy initiated a soil investigation and prepared an RI report for Sites 22A, 27, and 29, and a groundwater investigation for Site 29. The cost of completing environmental restoration has changed significantly due to changes in estimating criteria.

Completion of the Site 30 NTCRA work plan; Site 1 landfill cap construction and groundwater monitoring wells installation;

remaining Site 11 data gap sampling; and RI report for Sites 2, 9, and 11 were delayed due to technical issues. Regulatory issues delayed informal dispute resolution, preparation of a proposed plan (PP), ROD, and litigation area FS.

## FY07 MMRP Progress

NWS SBDC finalized PAs for both the Inland and Tidal Area Sites. The Navy prepared a draft SI field sampling plan/sample and analysis plan (FSP/SAP) for Site 24A, the Former Pistol Range. The installation finalized PAs and prepared draft FSP/SAPs for the Former Inland Burn Area/Railroad Siding Excavations site, the Eagles Nest Explosive Ordnance Disposal (EOD) Site, the Black Pit at Red Rock Site, and the Burn Area Near HE 5.

Technical issues delayed completion of the Tidal Area SI work plan.

## Plan of Action

Plan of action items for Naval Weapons Station Seal Beach, Detachment Concord are grouped below according to program category.

### IRP

- Complete Site 30 NTCRA work plan in FY08.
- Resolve informal dispute, finalize litigation area FS, and prepare PP and ROD in FY08.
- Complete Site 1 landfill cap construction and install groundwater monitoring wells in FY08.
- Complete remaining Site 11 data gap sampling and RI report for Sites 2, 9, and 11 in FY08.
- Transition Tidal Area environmental cleanup program to Army in FY08.

### MMRP

- Conduct supplemental PA at Inland Area EOD in FY08.
- Complete SI FSP/SAP; fieldwork; and prepare report for Site 24A, Former Inland Burn Area, Black Pit at Red Rock, and HE 5 Burn Area in FY08.
- Complete Tidal Area SI work plan in FY08.

<b>FFID:</b>	NE79799F041800	<b>Est. CTC (Comp Year):</b>	\$ 399.0 million (FY 2134)
<b>Size:</b>	17,214 acres	<b>IRP Sites (Final RIP/RC):</b>	9 (FY2011)
<b>Mission:</b>	Performed ordnance storage and manufacturing activities	<b>MMRP Sites (Final RIP/RC):</b>	1 (FY1997)
<b>HRS Score:</b>	31.94; placed on NPL in August 1990	<b>Five-Year Review Status:</b>	Planned
<b>IAG Status:</b>	IAG signed in September 1991		
<b>Contaminants:</b>	Explosives, VOCs, TCE, PCBs, SVOCs, metals, propellants		
<b>Media Affected:</b>	Groundwater, Surface Water, Sediment, Soil		
<b>Funding to Date:</b>	\$ 95.9 million		



Mead, Nebraska

## Progress To Date

From 1942 to 1956, the Nebraska Ordnance Plant (NOP) produced munitions at four bomb-loading lines, stored munitions, and produced ammonium nitrates. The property also contained burn areas, an Atlas missile facility, and a sewage treatment plant. The University of Nebraska now owns the majority of the property. The Nebraska National Guard, U.S. Army Reserves, and private entities own the remainder of the property. The U.S. Army Corps of Engineers (USACE) identified soil contaminated with polychlorinated biphenyls (PCBs) and munitions, and on-site and off-site groundwater contaminated with explosives and volatile organic compounds (VOCs). EPA placed the property on the NPL in August 1990, and EPA and the Army signed an interagency agreement (IAG) in September 1991. In FY97, USACE converted the property's technical review committee to a Restoration Advisory Board. In FY99, USACE completed a memorandum of understanding with the Lower Platte National Resource District concerning beneficial reuse of treated groundwater. In FY04, USACE completed a 5-year review of the munitions and explosives of concern (MEC) engineering evaluation and cost analysis (EE/CA) removal action.

To date, USACE has signed a Record of Decision (ROD) for Operable Units (OUs) 1 and 2 and incinerated over 16,000 tons of contaminated soil at the site. The cleanup progress at NOP for FY03 through FY06 is detailed below.

In FY03, USACE performed further investigation of the trichloroethylene (TCE) groundwater contamination plume discovered south of Load Line 1. The investigation determined the extent of the contamination plume, which allowed the work plans for the pre-design analysis and remedial action (RA) to be completed. At the request of EPA and the Department of Justice (DOJ), USACE initiated additional investigation activities to document and verify disposal of potential hazardous waste materials reported by the present landowner. In addition, both the Kansas City and Omaha Districts of USACE worked with the City of Omaha Municipal Utilities District (MUD) and EPA regarding the selected location for their new municipal water well field. The 5-year review of the MEC EE/CA removal action was under review for approval.

In FY04, USACE developed a remedial design (RD) for additional containment and groundwater monitoring wells. USACE continued operations and maintenance (O&M) of the treatment system and conducted quarterly groundwater monitoring. USACE also completed work plans for the Load Line 1 RA and developed an RD for a treatment facility south of Load Line 1. In a separate effort, USACE, EPA, and DOJ began negotiations with three potentially responsible parties (PRPs) for cost recovery and settlement of their environmental liability at the NOP. EPA approved the 5-year review of the MEC EE/CA removal action. USACE conducted a pre-design investigation in the vicinity of the proposed monitoring wells.

In FY05, DOJ continued to lead negotiations with PRPs. USACE initiated construction on Load Line 1 extraction wells and air stripper treatment system (RA for OU 2). USACE began implementation of the focused extraction portion of the OU 2 ROD. USACE also initiated a supplemental groundwater investigation to better define the southern and eastern edges of the plume and facilitate design of the MUD monitoring network.

In FY06, USACE continued O&M of the treatment system and quarterly groundwater monitoring. A supplemental groundwater investigation clearly defined the southern and eastern perimeter of the plume, supporting the design of a supplemental groundwater monitoring network. USACE developed and submitted a containment evaluation work plan describing how successful groundwater containment will be measured and reported. USACE completed construction and started operation of the extraction well and treatment for Load Line 1. USACE continued legal and technical support to DOJ for settlement discussions and litigation. The district approved the OU 2 ROD and implemented it at the site.

## FY07 IRP Progress

USACE continued O&M of the containment system, quarterly groundwater monitoring, and completed containment evaluation work. NOP completed installation of the supplemental groundwater monitoring network on the southern and eastern perimeters. USACE completed the first Annual Remedy Performance Report, a comprehensive assessment of system performance using monitoring, modeling, and O&M data. USACE continued implementation of the focused extraction

portion of the OU 2 ROD and submitted a 5-year review of the OU 2 remedy. The NOP initiated an interim removal action for OU 3 to dig and haul antimony contaminated soils on the site. USACE continued legal and technical support to DOJ.

NOP initiated construction of the advanced oxidation pre-treatment system; however, technical issues delayed its completion. Extraction wells in the center of Local Line 1 were not placed back into full operation due to this delay.

## FY07 MMRP Progress

USACE has identified no Military Munitions Response Program (MMRP) sites at this property.

## Plan of Action

Plan of action items for Nebraska Ordnance Plant are grouped below according to program category.

### IRP

- Complete construction of the advanced oxidation pre-treatment system and install new containment and focused extraction wells in FY08.
- Complete revision of OU 2 5-year review in FY08.
- Complete OU 3 interim removal action in FY08.
- Update community relations plan in FY08.
- Continue PRP support to DOJ in FY08.

### MMRP

- There are no MMRP actions scheduled for FY08 or FY09.

**FFID:** CT117002202000  
**Size:** 547 acres  
**Mission:** Maintain and repair submarines; conduct submarine training and submarine medical research; provide a home port for submarines  
**HRS Score:** 36.53; placed on NPL in August 1990  
**IAG Status:** FFA signed in January 1995

**Contaminants:** Dredge spoils, incinerator ash, POLs, PCBs, spent acids, pesticides, solvents, construction debris, metals, VOCs, SVOCs  
**Media Affected:** Groundwater, Surface Water, Sediment, Soil  
**Funding to Date:** \$ 62.9 million  
**Est. CTC (Comp Year):** \$ 29.9 million (FY 2041)  
**IRP Sites (Final RIP/RC):** 29 (FY2014)  
**MMRP Sites (Final RIP/RC):** None  
**Five-Year Review Status:** Completed



Groton, Connecticut

**Progress To Date**

New London Naval Submarine Base maintains and repairs submarines. Significant sites at the installation include the Area A landfill (Site 2), a number of smaller disposal areas, and fuel and chemical storage areas. The Navy placed the installation on the NPL in August 1990 because of polychlorinated biphenyl (PCB) contamination at Site 2. In 2005, the BRAC Commission recommended New London Submarine Base for realignment. The installation formed a technical review committee in FY89 and converted it to a Restoration Advisory Board in FY94. The installation signed a federal facility agreement (FFA) in January 1995. The installation completed 5-year reviews in FY01 and FY07.

Installation Restorative Program (IRP) sites have been identified at this installation, along with underground storage tanks (USTs) which were grouped into two UST sites. The installation has completed Record of Decision (ROD) documents for Sites 2, 3, 6, 8, 20, and the basewide groundwater operable unit (OU). In addition, the installation has signed No Further Action (NFA) RODs for Sites 4 and 15. The installation completed the proposed remedial action plan (PRAP) and ROD for the basewide groundwater OU. In FY02, the Navy completed an inventory of all Military Munitions Response Program (MMRP) sites. The cleanup progress at New London Naval Submarine Base for FY03 through FY06 is detailed below.

In FY03, the Navy performed additional fieldwork in the adjacent Thames River. The data was included in the feasibility study (FS) for the lower base sites. The installation completed the FS for the basewide groundwater OU.

In FY04, the installation completed the PRAP and ROD for the basewide groundwater OU.

In FY05, New London Naval Submarine Base completed remedial design for the basewide groundwater OU and for the Site 7 Soil OU.

In FY06, the installation completed remedial action (RA) for basewide groundwater OU and the RA at Site 7 Soil OU. The installation completed a draft 5-year review. Additionally, the

Navy drafted an NFA PRAP for the Defense Reutilization and Marketing Office (DRMO) Site 6.

**FY07 IRP Progress**

New London Submarine Base finalized the second 5-year review, and finalized the ROD for the DRMO Site 6. The installation completed an explanation of significant differences for Site 3 and completed Thames River Study field work. The cost of completing environmental restoration has changed significantly due to technical issues.

**FY07 MMRP Progress**

The Navy has identified no MMRP sites at this installation.

**Plan of Action**

Plan of action items for New London Naval Submarine Base are grouped below according to program category.

**IRP**

- Complete Thames River Study in FY08.
- Finalize FS for lower base sites in FY08.
- Complete engineering evaluation and cost analysis for Inner Pier 1 Sediments in FY08.
- Draft Area A Wetlands remedial investigation and FS in FY08.
- Complete PRAP and ROD for lower base sites in FY08.

**MMRP**

There are no MMRP actions scheduled for FY08 or FY09.

<b>FFID:</b>	OH557002465000	<b>Funding to Date:</b>	\$ 6.4 million
<b>Size:</b>	70 acres	<b>Est. CTC (Comp Year):</b>	\$ 0.8 million (FY 2011)
<b>Mission:</b>	Provided depot-level maintenance for Air Force and DoD missile, navigation, and guidance systems.	<b>IRP Sites (Final RIP/RC):</b>	14 (FY2002)
<b>HRS Score:</b>	N/A	<b>MMRP Sites (Final RIP/RC):</b>	None
<b>IAG Status:</b>	None	<b>Five-Year Review Status:</b>	Completed and planned
<b>Contaminants:</b>	VOCs, SVOCs, BCEE, TCE		
<b>Media Affected:</b>	Groundwater and Soil		



Heath, Ohio

## Progress To Date

Newark Air Force Base (AFB) has provided depot-level maintenance for missile, guidance, and navigational systems used by most aircraft and missiles since 1992. In 1993, the BRAC Commission recommended that Newark AFB be closed. The work at Newark AFB was privatized-in-place in 1996. Past waste management activities related to solvents, such as freon 113 and trichloroethylene (TCE), have affected groundwater at the installation. An Environmental Baseline Survey was completed in 1994. In FY94, the installation formed a BRAC cleanup team (BCT) and a Restoration Advisory Board (RAB) to support cleanup efforts. The RAB adjourned in FY05. The Air Force completed the first 5-year review in FY05.

The installation prepared No Further Action Decision Documents for five sites. Upon closure, 56 of the 70 acres comprising Newark AFB were transferred to the Heath-Newark-Licking County Port Authority. In FY03, a 13-acre parcel on the northern side of the installation was transferred to Licking County Regional Airport. In FY04, the Air Force conducted an inventory of Military Munitions Response Program (MMRP) sites. The cleanup process at Newark AFB from FY03 through FY06 is detailed below.

In FY03, the Air Force transferred Landfill 002, totaling 13 acres, to the Licking County Regional Airport Authority. An amended post closure plan (APCP) for Site FF 87 and the hazardous waste storage area was submitted for regulatory review.

In FY04, the APCP for Site FF 87 was completed. Contaminant concentrations dramatically decreased at monitoring well (MW) 87 1A. The Air Force conducted an inventory of MMRP sites. No MMRP sites were identified at this installation.

In FY05, the Air Force completed the first 5-year review. The enhanced bioremediation at Site FF 87 continued to make progress at the two remaining wells (MWs 87 1 and 87 1A), where concentrations of TCE exceed the maximum contaminant level. A performance-based contract was awarded for groundwater monitoring at Site FF 87. The BCT held one meeting, at which the Air Force presented proposed amendments to the post closure plan for the detection monitoring program and bioremediation effectiveness

monitoring program. The RAB formally adjourned in accordance with DoD policy because all environmental cleanup sites were closed with the exception of Site FF 87.

In FY06, remedial action-operation (RA-O) groundwater monitoring activities at Site FF 87 continued, and a proposal was submitted to amend the APCP for this site. The Air Force submitted an operating properly and successfully (OP&S) demonstration for Site FF 87 to EPA Region V. Obsolete groundwater monitoring wells at previously transferred parcels were decommissioned. The BCT met twice and signed a consensus statement for no further groundwater monitoring at Site LF 002.

## FY07 IRP Progress

Newark AFB continued Groundwater RA-O at Site FF 87, including the collection of two rounds of source area delineation samples. Sampling results indicated the source area was larger and more complex than originally estimated, changing the conceptual site model. EPA Region V provided conditional approval of post closure plan amendments for Site FF 87. The installation finalized an updated land use controls/institutional controls map. The cost of completing environmental restoration has changed significantly due to changes in estimating criteria.

Technical issues delayed OP&S demonstration approval for Site FF 87.

The BCT met twice during the year.

## FY07 MMRP Progress

The Air Force has identified no MMRP sites at this installation.

## Plan of Action

Plan of action items for Newark Air Force Base are grouped below according to program category.

### IRP

- Plan and coordinate final source reduction remedy at Site FF 87 in FY08.
- Continue RA-O groundwater monitoring at Site FF 87 in FY08-FY09.
- Prepare OP&S documents and obtain OP&S approval letter for Site FF 87 in FY08-FY09.
- Revise the post closure plan to accommodate post-excavation groundwater monitoring requirements at Site FF 87 in FY08-FY09.

### MMRP

There are no MMRP actions scheduled for FY08 or FY09.

<b>FFID:</b>	IN521382227200	<b>Funding to Date:</b>	\$ 20.4 million
<b>Size:</b>	6,996 acres	<b>Est. CTC (Comp Year):</b>	\$ 6.2 million (FY 2017)
<b>Mission:</b>	Store and eliminate VX stockpile and related materials, while protecting the workforce, public, and environment	<b>IRP Sites (Final RIP/RC):</b>	17 (FY2009)
<b>HRS Score:</b>	N/A	<b>MMRP Sites (Final RIP/RC):</b>	1 (FY2017)
<b>IAG Status:</b>	None	<b>Five-Year Review Status:</b>	Planned
<b>Contaminants:</b>	Explosives, heavy metals, VOCs, SVOCs, breakdown products		
<b>Media Affected:</b>	Groundwater, Surface Water, Sediment, Soil		



Newport, Indiana

## Progress To Date

In May 2005, the BRAC Commission recommended closure of the Newport Chemical Depot (CD) after completion of the chemical demilitarization mission. The installation began to neutralize VX agent on May 5, 2005. The Wabash River Ordnance Works (Site 001) originally manufactured the explosive RDX during World War II and the Korean Conflict. In addition, heavy water was produced in support of the Manhattan Project and Atomic Energy Commission. In 1961, the heavy water production facility was converted to the production of chemical agent VX and operated until 1969 (Sites 014 and 016). The installation buried building debris at Sites 022 and 025, including asbestos-contaminated and decontaminated debris from the chemical plant. From 1973 to 1974, the Army constructed a TNT production plant. The installation burned and buried TNT removed from the production lines at Site 024. In 2000, Newport CD formed a Restoration Advisory Board (RAB). In FY02, the installation composted approximately 7,000 cubic yards of TNT- and DNT-contaminated soils at Site 024. The Army conducted a preliminary assessment of the Military Munitions Response Program (MMRP) site at Site 022.

Environmental studies identified 17 sites. 11 of these sites have achieved response complete. The cleanup progress at Newport CD for FY03 through FY06 is detailed below.

In FY03, the installation composted and backfilled approximately 6,700 cubic yards of RDX-contaminated soils in excavations at Site 001.

In FY04, Newport CD constructed a soil barrier on a portion of Site 022. Newport CD also established an inspection program to periodically check the integrity of the soil barrier and complete any needed repairs. The Army conducted a geophysical study to identify the location of a buried 300-gallon tank at Site 022. The installation also installed a 2-foot-thick soil cap and 6-inch-thick topsoil layer, and revegetated the area to control soil erosion at Site 025. The installation established an inspection program to periodically check the integrity of the cap, assess the stability of the creek bank, and conduct any needed repairs.

In FY05, the BRAC Commission recommended closure of Newport CD. The installation conducted long-term management (LTM) for groundwater at Sites 001, 022, 024, and 025. Newport CD completed a land use control implementation plan.

In FY06, the installation conducted LTM for groundwater at Sites 001, 022, 024, and 025. The installation also conducted cap inspection at Sites 022 and 025. Newport CD hosted a RAB meeting. The installation initiated a historical records review (HRR) to identify potential munitions, including landmines, aerial rockets, secondary explosives, and toxic chemical agents/munitions. Additional sites identified in the HRR will be addressed in the environmental condition of property (ECP) report.

## FY07 IRP Progress

Newport CD continued LTM for groundwater at Sites 001, 022, 024, and 025. The cost of completing environmental restoration has changed significantly due to technical issues and changes in estimating criteria.

Administrative issues delayed abandonment of groundwater monitoring wells, sampling at Site 016, and installation of groundwater monitoring wells at Site 014. Technical issues delayed the ECP report.

## FY07 MMRP Progress

Newport Chemical Depot completed the HRR.

## Plan of Action

Plan of action items for Newport Chemical Depot are grouped below according to program category.

### IRP

- Locate and sample buried tank at Site 022 in FY08.
- Complete the ECP report in FY08.
- Conduct soil sampling and install groundwater monitoring wells at Site 016 in FY08.
- Install groundwater monitoring wells at Site 014 in FY08.
- Abandon unused monitoring wells in FY08.

### MMRP

There are no MMRP actions scheduled for FY08 or FY09.

<b>FFID:</b>	VA317002741400	<b>Funding to Date:</b>	\$ 96.5 million
<b>Size:</b>	4,631 acres	<b>Est. CTC (Comp Year):</b>	\$ 19.6 million (FY 2022)
<b>Mission:</b>	Provide services and materials to support the aviation activities and operating forces of the Navy	<b>IRP Sites (Final RIP/RC):</b>	62 (FY2009)
<b>HRS Score:</b>	50.00; placed on NPL in April 1997	<b>MMRP Sites (Final RIP/RC):</b>	None
<b>IAG Status:</b>	FFA signed in February 1999	<b>Five-Year Review Status:</b>	Completed
<b>Contaminants:</b>	Petroleum products, PCBs, solvents, heavy metals, acids, paints, asbestos, pesticides, VOCs, SVOCs		
<b>Media Affected:</b>	Groundwater, Surface Water, Sediment, Soil		



Norfolk, Virginia

**Progress To Date**

Norfolk Naval Base provides services and materials to support the aviation activities and operating forces of the Navy. Contamination has resulted from maintenance of aircraft, equipment, and vehicles, and from operation of support facilities. Site types at the installation include landfills, ordnance storage areas, waste disposal areas, fire training areas, fuel spill areas, and underground storage tanks. The installation was placed on the NPL in April 1997, mainly because of the potential for migration of contaminated surface water into groundwater and soil. The installation formed a technical review committee in FY89 and converted it to a Restoration Advisory Board in FY94. A community relations plan was completed in FY93 and updated in FY03. The installation signed a federal facility agreement (FFA) in February 1999. In FY03, the installation completed 5-year reviews for Sites 1, 2, 3, 6, and 20.

Installation Restoration Program (IRP) sites and solid waste management units (SWMUs) have been identified at this installation. The installation has signed Records of Decision (RODs) for SWMUs 12 and 16, and Sites 2, 6, and 22. In FY02, the Navy completed an inventory of all Military Munitions Response Program (MMRP) sites. The cleanup progress at Norfolk Naval Base for FY03 through FY06 is detailed below.

In FY03, the installation completed a final 5-year review document. Watershed contaminant source documentation was prepared for SWMU 14 in a draft final format. The closeout report was signed for SWMU 6. A consensus was also reached for closure of SWMU 4. The installation prepared an engineering evaluation and cost analysis (EE/CA) to address contamination in a pond area adjacent to Site 22. The remedy consists of a one-foot cover over contaminated sediment. Consensus was reached on the shutdown strategy for Site 3 Area of Concern (AOC) 1 and the strategy was implemented. The installation prepared a document to record the potential sources of contamination in the watershed of Willoughby Bay. Site 23 was added as a new CERCLA site.

In FY04, the installation completed the one-foot sediment cover remedy at the pond adjacent to Site 22. The installation also finalized the watershed contaminated source document for Willoughby Bay. Additionally, the remedial investigation (RIs)

for SWMUs 12 and 16 were finalized and consensus was reached for no further action (NFA) at these sites. The installation finalized the proposed remedial action plan (PRAP) and ROD for soil and sediment at Site 22 and initiated the RI at Site 23. The installation initiated a final expanded site inspection (SI).

In FY05, Norfolk Naval Base finalized an NFA, PRAP, and ROD for SWMUs 12 and 16. The installation finalized an SI for Site 23 and also completed the first phase of the RI. A remedial design (RD) was finalized for Sites 2 and 22. The installation completed the final RI for SWMU 14.

In FY06, Norfolk Naval Base implemented the shutdown strategy at Site 3 AOC 2.

**FY07 IRP Progress**

Norfolk Naval Base completed an SI for Site 18. The installation completed an interim remedial action completion report for Site 22, and an EE/CA at Site 23.

**FY07 MMRP Progress**

The Navy has identified no MMRP sites at this installation.

**Plan of Action**

Plan of action items for Norfolk Naval Base are grouped below according to program category.

**IRP**

- Complete RDs at Sites 1, 3, 6, and 20 in FY08.
- Complete EE/CA for asphalt cover at SWMU 14 in FY08-FY09.
- Complete EE/CA to address groundwater at Site 18 in FY08-FY09.
- Implement initiatives to reduce elevated volatile organic compound (VOC) concentrations at Site 1 in FY08-FY09.

**MMRP**

There are no MMRP actions scheduled for FY08 or FY09.

<b>FFID:</b>	VA317002481300	<b>Contaminants:</b>	Heavy metals, PCBs, VOCs, SVOCs, POLs, land solvents
<b>Size:</b>	795 acres	<b>Media Affected:</b>	Groundwater, Surface Water, Sediment, Soil
<b>Mission:</b>	Provide logistical support for assigned ships and service craft; perform work in connection with conversion, overhaul, repair, alteration, dry-docking, and outfitting of naval vessels; perform manufacturing, research, development, and test work; provide services to other activities and units	<b>Funding to Date:</b>	\$ 28.5 million
<b>HRS Score:</b>	50.0; placed on NPL in July 1999	<b>Est. CTC (Comp Year):</b>	\$ 9.7 million (FY 2017)
<b>IAG Status:</b>	FFA signed in September 2004	<b>IRP Sites (Final RIP/RC):</b>	31 (FY2011)
		<b>MMRP Sites (Final RIP/RC):</b>	None
		<b>Five-Year Review Status:</b>	Planned



Portsmouth, Virginia

**Progress To Date**

Norfolk Naval Shipyard (NSY) is located on the western bank of the southern branch of the Elizabeth River. The Norfolk NSY Installation Restoration Program (IRP) includes investigation and remediation of sites located within the main shipyard and within three annexes that were formerly part of Norfolk NSY but are now under the control of other claimants. The sites resulted from past landfilling, disposal operations, and the operation of a plating shop. The installation was placed on the NPL in July 1999, because of the potential impact of surface water runoff on Paradise Creek, which is adjacent to the shipyard disposal areas. An administrative record was established in FY92, and a community relations plan (CRP) was completed in FY94; the CRP was updated in June 2003. The installation formed a technical review committee in FY94 and converted it to a Restoration Advisory Board in FY96. The Navy completed a federal facility agreement (FFA) in September 2004.

An initial assessment study identified IRP sites at Norfolk NSY. A RCRA facility investigation (RFI) performed at the installation identified 31 solid waste management units (SWMUs). An RFI supplement identified an additional 121 SWMUs and areas of concern (AOCs). An additional 47 AOCs were later identified, bringing the total number of potentially contaminated areas at Norfolk NSY to 218. During the development of the FFA, inconsistent numbering and nomenclature of potentially contaminated areas in the previous documentation was identified. As a result, the Norfolk NSY reduced the number of identified sites in the FFA to 163. In FY02, the Navy completed an inventory of all Military Munitions Response Program (MMRP) sites. No MMRP sites were identified at this installation. The cleanup progress at Norfolk NSY for FY03 through FY06 is detailed below.

In FY03, the installation drafted an FFA, which identified a total of 163 sites (seven sites which will require a Record of Decision (ROD), five site screening areas, five preliminary screening areas, and 146 no further action [NFA] sites). The installation completed the joint approach response action to address cross-boundary contamination from Norfolk NSY Site 9. Approximately 44,000 tons of calcium hydroxide and other debris were removed and the site was restored to create 1.5 acres of engineered tidal wetlands.

In FY04, the installation finalized the FFA. The Navy completed the engineering evaluation and cost analysis and removal action designs for Operable Units (OUs) 1 and 2. The non-time-critical removal action (NTCRA) at OU 1 was initiated.

In FY05, Norfolk NSY's Site 17 feasibility study (FS) was revised to address changes in the planning requirements for the site. An NTCRA was completed at OU 1; approximately 30,000 tons of waste were removed, and 1.46 acres of wetlands were created or restored. The installation finalized the proposed plan (PP) for OU 1. The Navy initiated the Phase I NTCRA for OU 2.

In FY06, Norfolk NSY completed the RODs for Site 17 and OU 1. The remedial action in the Site 17 ROD is to restrict residential development via land use controls. Because of the NTCRA completed at OU 1, NFA is required at that site. The installation completed the remedial investigation and FS for Site 10.

**FY07 IRP Progress**

Norfolk NSY completed the ROD for Site 10; the remedy for this site is to implement land use controls. The Phase I NTCRA was completed at OU 2; approximately 36,000 tons of waste was removed and 3.5 acres of wetlands were created or restored. The Navy completed the preliminary assessment for Site 15, Past Pier-Side Industrial Operations. The installation performed a review of historical dredge records and waterfront capital improvement projects, which allowed for an NFA determination for Site 15. The Navy acquired the last of three parcels to construct the remedy planned for OU 2 Phases II and III. The cost of completing environmental restoration has changed significantly due to technical issues.

Technical issues delayed the implementation of Phase II and III actions for OU 2, which will be conducted under an executed ROD.

**FY07 MMRP Progress**

The Navy has identified no MMRP sites at this installation.

**Plan of Action**

Plan of action items for Norfolk Naval Shipyard are grouped below according to program category.

**IRP**

- Complete the FS and PP for OU 2 in FY08.
- Develop the long-term management plan for groundwater at OU 2 in FY08.

**MMRP**

There are no MMRP actions scheduled for FY08 or FY09.

<b>FFID:</b>	CA957002434500	<b>Funding to Date:</b>	\$ 120.7 million
<b>Size:</b>	2,221 acres	<b>Est. CTC (Comp Year):</b>	\$ 15.2 million (FY 2024)
<b>Mission:</b>	Supported C-141 airlift operations	<b>IRP Sites (Final RIP/RC):</b>	33 (FY2005)
<b>HRS Score:</b>	39.65; placed on NPL in July 1987	<b>MMRP Sites (Final RIP/RC):</b>	5 (FY2008)
<b>IAG Status:</b>	IAG signed in 1989	<b>Five-Year Review Status:</b>	Completed and planned
<b>Contaminants:</b>	Paints, refrigerants, heavy metals, spent solvents, TCE, VOCs, SVOCs, waste oils, fuel		
<b>Media Affected:</b>	Groundwater and Soil		



San Bernardino, California

**Progress To Date**

Norton Air Force Base (AFB) supported C-141 airlift operations. EPA placed the installation on the NPL in July 1987. In December 1988, the BRAC Commission recommended closure of Norton AFB. The installation signed an interagency agreement (IAG) in 1989 and closed in March 1994. The most significant sources of contamination at the base were a trichloroethylene (TCE)-contaminated groundwater plume and contaminated soil areas. Sites include underground storage tanks, landfills, fire training areas, spill areas, and waste disposal pits. Four RCRA sites required closure. The installation formed a Restoration Advisory Board (RAB) and BRAC cleanup team (BCT) in FY94. The RAB disbanded in FY98. The installation completed the first 5-year review in FY00 and the second 5-year review in FY05.

Prior to FY01, a Record of Decision (ROD) was signed for the Central Base Area Operable Unit and a closure report for Site 5 (AT 005) was completed. In FY04, the Air Force conducted an inventory of Military Munitions Response Program (MMRP) sites. The installation completed a basewide ROD in FY05 and all base property was transferred in FY07. The cleanup progress at Norton AFB for FY03 through FY06 is detailed below.

In FY03, the installation closed the Air Combat Camera Services and initiated closure of the industrial waste line (IWL). The final basewide feasibility study was approved by regulatory agencies and the interior remedial action (RA) for Building 752 was completed.

In FY04, the installation finalized the basewide proposed plan and submitted the draft ROD for regulatory review. The installation also completed the physical closure of the IWL and industrial wastewater treatment plant (IWTP). The IWL post-closure care plan and permit were submitted for regulatory approval. Finally, RA construction was completed at Site 10 and the Building 752 exterior. The Air Force conducted an inventory of MMRP sites. MMRP sites were identified at this installation.

In FY05, the installation finalized the basewide ROD and selected remedies for 21 sites and 73 areas of concern. The Air Force completed the second 5-year review. The installation

completed and submitted RCRA documentation and certification for the remaining two RCRA sites to regulators. Groundwater pump-and-treat systems were decommissioned, and over 50 groundwater monitoring wells were taken out of service and decommissioned. The installation began preparing the RA completion report for the groundwater pump-and-treat systems. The installation also attained the last remedy in place milestone. The Air Force submitted addendums to the IWTP clean closure certification report to regulators. The Air Force began evaluating requirements at MMRP sites at this installation. The BCT continued to meet every other month. The RAB, although formally disbanded in FY98, held an annual public meeting.

In FY06, Norton AFB completed the RA completion report for the groundwater pump-and-treat systems. The installation initiated the NPL delisting process and EPA completed the Preliminary Closeout Report for the installation. The installation completed the MMRP requirement evaluations. All MMRP sites were either administratively closed or determined to require no further action. The BCT continued to meet every two months.

**FY07 IRP Progress**

Norton AFB completed the transfer of all remaining property and submitted a request to terminate RCRA corrective action authority on non-permitted portions of the installation. The cost of completing environmental restoration has changed significantly due to changes in estimating criteria.

Administrative issues delayed regulatory concurrence on the two remaining RCRA site closures; as a result, the RCRA Post-Closure Permit for the IWL could not be issued.

BCT meetings were reduced to one annual meeting.

**FY07 MMRP Progress**

Closure documentation was prepared for the five MMRP sites.

**Plan of Action**

Plan of action items for Norton Air Force Base are grouped below according to program category.

**IRP**

- Complete closure of two RCRA sites in FY08.
- Terminate RCRA corrective action authority on non-permitted sites in FY08.
- Obtain RCRA Post-Closure Permit for the IWL in FY09.

**MMRP**

- Complete closure documentation for five MMRP sites in FY08.

<b>FFID:</b>	CA921352066100	<b>Funding to Date:</b>	\$ 41.0 million
<b>Size:</b>	425 acres	<b>Est. CTC (Comp Year):</b>	\$ 8.6 million (FY 2014)
<b>Mission:</b>	Served as host to Military Traffic Management Command, Western Area	<b>IRP Sites (Final RIP/RC):</b>	15 (FY2014)
<b>HRS Score:</b>	N/A	<b>MMRP Sites (Final RIP/RC):</b>	None
<b>IAG Status:</b>	None	<b>Five-Year Review Status:</b>	Planned
<b>Contaminants:</b>	POLs, TCE, solvents, lead, PCBs, VOCs, SVOCs, metals		
<b>Media Affected:</b>	Groundwater, Surface Water, Sediment, Soil		



Oakland, California

## Progress To Date

The 1995 BRAC Commission recommended closure of Oakland Army Base. The Army closed the installation as scheduled on September 30, 1999. Beginning in 1989, the installation continued to characterize potentially contaminated areas through its Installation Restoration Program (IRP). These sites included underground storage tanks; Berths 6 and 6 ½, where storm drain bedding materials were contaminated with oil and fuel products; Building 991, where pesticides and oil were in soil and groundwater; the West Grand Avenue overpass roadsides (lead-contaminated soil); Building 807 (chlorinated solvents in soil and groundwater); and Building 648, where soil was contaminated with polychlorinated biphenyls (PCBs). In FY96, the installation formed a BRAC cleanup team and a Restoration Advisory Board (RAB). In FY98, the installation completed an initial BRAC cleanup plan and an Environmental Baseline Survey for each of the base's 26 parcels.

To date, the Army has signed a Record of Decision (ROD) and transferred approximately 387 acres. Parcel 1 and Operable Unit (OU) 2 are the only remaining Army sites. In FY02, the Army completed an inventory of all Military Munitions Response Program (MMRP) sites. The cleanup progress at Oakland Army Base for FY03 through FY06 is detailed below.

In FY03, the Army provided supplementary groundwater monitoring, thus completing finding of suitability for early transfer (FOSET) negotiations. Funding was programmed for the Parcel 1 investigation and cleanup. The Army also initiated off-site OU 2 groundwater monitoring. In support of the FOSET, the state regulatory agency issued a ROD approving the local reuse authority (LRA) remedial action (RA) and risk management plans. The installation transferred 366 acres to the LRA. The RAB initiated the process to formally adjourn.

In FY04, the Army transferred groundwater monitoring responsibility to the LRA for their closure actions. The Army continued to oversee LRA cleanup actions under the terms of the environmental services cooperative agreement.

In FY05, the Army completed the Parcel 1 remedial investigation and draft feasibility study (FS), and began remedial design (RD)/RA contracting actions. The regulators agreed to postpone RAs at OU 2 until the source area for the

contamination was investigated and remediated. The installation continued oversight of the LRA RAs.

In FY06, the Army completed the FS and awarded a contract for RD/RA at Parcel 1. The Army also drafted the decision document (DD) for Parcel 1 RAs. The Army reevaluated the alternative selected in the ROD for Parcel 1. As a result, the Army will amend the draft DD and resubmit it for regulatory concurrence. The OU 2 property owner started actions to fill the wetland site for railroad expansion under the fill and development plan. The adjacent LRA property became a non-issue as a source. The Army expects that this will relieve the Army of RA responsibility at OU 2. The Army continued oversight of LRA RAs.

## FY07 IRP Progress

The Army has negotiated with regulators regarding the final ROD for Parcel 1. Upon completion, the RD and response complete phases can be fully implemented. The cost of completing environmental restoration has changed significantly due to technical issues and changes in estimating criteria.

Regulatory issues and funding constraints delayed the DD for Parcel 1 RAs, review of Parcel 1 FS, and oversight of LRA RAs.

## FY07 MMRP Progress

The Army has identified no MMRP sites at this installation.

## Plan of Action

Plan of action items for Oakland Army Base are grouped below according to program category.

### IRP

- Implement RAs at Parcel 1 in FY08.
- Complete the DD for Parcel 1 RAs in FY08.
- Continue oversight of LRA RAs in FY08.
- Review Parcel 1 FS in FY08.

### MMRP

There are no MMRP actions scheduled for FY08 or FY09.

<b>FFID:</b>	WA09799F832600	<b>Media Affected:</b>	Groundwater, Surface Water, Sediment, Soil
<b>Size:</b>	350 acres	<b>Funding to Date:</b>	\$ 12.1 million
<b>Mission:</b>	Provided harbor defense for Puget Sound; tested torpedoes and stored fuel during World War I; served as a fire training school for the Navy and housed an anti-aircraft artillery battery	<b>Est. CTC (Comp Year):</b>	\$ 1.1 million (FY 2004)
<b>HRS Score:</b>	50.00; placed on NPL in May 1994	<b>IRP Sites (Final RIP/RC):</b>	2 (FY2004)
<b>IAG Status:</b>	IAG signed in July 1997	<b>MMRP Sites (Final RIP/RC):</b>	None
<b>Contaminants:</b>	Asbestos, PCBs, heavy metals, petroleum hydrocarbons, dioxins, furans	<b>Five-Year Review Status:</b>	Planned



Kitsap County, Washington

**Progress To Date**

The Navy owned the Old Navy Dump/Manchester Annex from 1919 to 1960. During that time, three areas (a net depot, a fire training area, and a landfill) were established at the property. Activities at the property included maintenance, painting, sandblasting, and storage of steel cable net. The Navy disposed of domestic waste, wood, and metal waste originating from the Annex and the Puget Sound Naval Shipyard in a landfill. Currently, the National Oceanic and Atmospheric Administration, the National Marine Fisheries Service, an EPA laboratory, and a portion of Manchester State Park occupy the property. Preliminary assessments and site inspections conducted at the property since FY87 identified past releases of hazardous substances from the three areas. Contaminants, have been detected in soil at the landfill, at the fire training area, and in surface water and sediment at the property. Contaminants of concern include heavy metals, polychlorinated biphenyls (PCBs), petroleum hydrocarbons, dioxins and furans, and asbestos. The Manchester Annex Workgroup was established in FY94. EPA placed the property on the NPL in May 1994. During FY95, a potential unexploded ordnance area was identified, but the U.S. Army Corps of Engineers (USACE) determined that the area was not accessible to the general public and thus the area was considered for no further action. The USACE signed an interagency agreement (IAG) in July 1997. In FY04, USACE completed the first 5-year review.

To date, USACE and regulators have signed one Record of Decision (ROD). The cleanup progress at the Old Navy Dump/Manchester Annex for FY03 through FY06 is detailed below.

In FY03, USACE completed the institutional control plan. USACE continued long-term management (LTM) for inspection and maintenance of the landfill cover.

In FY04, USACE continued LTM for inspection and maintenance of the landfill cover. USACE also completed the first 5-year review on the site and identified several areas where USACE needs to take action. Additionally, USACE determined that the remedy continued to be protective. USACE has identified no Military Munitions Response Program (MMRP) sites at this property.

In FY05, USACE conducted the required actions from the 5-year review. USACE initiated a shellfish tissue and sediment study to determine the health of the bivalve population. The study suggested that the remedy in the ROD is operating properly and contamination did not appear to be reducing the bivalve population.

In FY06, USACE continued to conduct the compliance monitoring as required in the ROD. The property continued to monitor the landfill for uncontrolled releases and found none. USACE conducted a clam counting survey to determine if the bivalve population was sufficient for sampling and found the number of appropriate bivalves was not sufficient to sample. Ongoing landfill cap maintenance actions were accomplished, including mowing, gas vent sampling, and drainage system checks.

**FY07 IRP Progress**

USACE continued compliance monitoring of the clam population, and continued LTM and maintenance of the landfill cap. The cost of completing environmental restoration has changed significantly due to changes in estimating criteria.

**FY07 MMRP Progress**

USACE completed an archive search report (ASR). USACE is planning to prepare an inventory project report (INPR) and propose an MMRP project as required by the ASR and technical advisory group.

**Plan of Action**

Plan of action items for Old Navy Dump/Manchester Annex are grouped below according to program category.

**IRP**

- Conduct a clam count to determine if the population has grown significantly enough to sample the population in FY08.

**MMRP**

- Prepare and approve INPR for MMRP project in FY08.

<b>FFID:</b>	FL417002473600	<b>Funding to Date:</b>	\$ 37.1 million
<b>Size:</b>	2,050 acres	<b>Est. CTC (Comp Year):</b>	\$ 7.4 million (FY 2003)
<b>Mission:</b>	Serve as naval training center; formerly used as Army Air Force and Air Force bases	<b>IRP Sites (Final RIP/RC):</b>	14 (FY2003)
<b>HRS Score:</b>	N/A	<b>MMRP Sites (Final RIP/RC):</b>	None
<b>IAG Status:</b>	None	<b>Five-Year Review Status:</b>	Planned
<b>Contaminants:</b>	Asbestos, paints, POLs, photographic chemicals, solvents, low-level radioactive wastes, VOCs, SVOCs, metals		
<b>Media Affected:</b>	Groundwater, Surface Water, Sediment, Soil		



Orlando, Florida

## Progress To Date

From 1941 to 1968, Orlando Naval Training Center (NTC) served as an Army air base and an Air Force base. In 1968, it became a naval training center. In July 1993, the BRAC Commission recommended closure of the installation and relocation of its activities. The installation has four areas: the main base, Area C, Herndon Annex, and McCoy Annex. Most of the operational and training facilities are located on the main base. Area C, west of the main base, contains warehouse and laundry operations. Herndon Annex contains warehouse and research facilities. McCoy Annex contains housing and community facilities. In FY94, the installation formed a Restoration Advisory Board and a BRAC cleanup team (BCT). The installation closed on April 30, 1999. In FY01, the installation conducted a 5-year review.

The installation has identified 55 areas of concern (AOCs) and more than 300 tank systems requiring removal or assessment. The BCT completed a Record of Decision and removed and assessed 55 tanks. The installation completed a draft finding of suitability to lease for McCoy Annex and draft findings of suitability to transfer for the public benefit conveyance of Herndon Annex and part of McCoy Annex to the Airport Authority. In addition, the installation has transferred 1,425 acres to the City of Orlando, and approximately 83 acres to the Federal Aviation Administration. In FY02, the Navy completed an inventory of all Military Munitions Response Program (MMRP) sites. No MMRP sites were identified at this installation. The cleanup progress at Orlando NTC for FY03 through FY06 is detailed below.

In FY03, operating properly and successfully was granted at Study Area (SA) 36 and is still pending at the remaining AOCs. The installation issued decision documents (DDs) for SAs 18 and 54. Treatability studies at Operable Unit (OU) 3 and Building 7125 were completed. Orlando NTC completed the original interim remedial action (IRA) at OU 2. IRAs continued at OUs 3 and 4. The installation transferred SAs 36 and 39 (3.42 acres) to the City of Orlando via covenant deferral.

In FY04, the installation continued long-term management (LTM) at SAs 17, 36, 39, 52, and OU 1, and operation and maintenance (O&M)/LTM at OUs 2, 3, and 4. It also completed Phase II of the finding of suitability for early transfer (FOSET) of

the majority of remaining sites (OUs 2 and 3, the majority of Area C, OU 4, SAs 2, 17, and 52). The installation initiated the FOSET for the remainder of Area C for General Services Administration public sale. The installation completed the IRA for SA 55 and continued the IRAs at OU 3, and SAs 17 and 52. It also completed the covenant deferral for the majority of the remaining property. Orlando NTC performed an IRA and amended the ROD for OU 3. The amendment stated that the IRA is part of a pilot study to clean arsenic from groundwater at SAs 8 and 9 (OU 3). The installation also issued final DDs for SAs 36, 39, 52, and 55.

In FY05, the installation continued O&M/LTM at OUs 1, 2, 3, 4, and SAs 17, 36, 39, and 52. The installation continued IRAs at OUs 2, 3, 4, and SAs 2, 36, and 39. The Navy identified a new site at the main base (SA 36 Northwest [NW]) where petroleum contamination in groundwater (primarily benzene) migrated from the former main base auto service station (Building 109). The installation added the site to LTM.

In FY06, Orlando NTC monitored and evaluated off-site contamination at OUs 2, 3, 4, and SAs 17, and 36 NW. The Navy continued to monitor IRAs O&M/LTM at OUs 1, 2, 3, 4, and SAs 17, 36, 36 NW, and 52.

## FY07 IRP Progress

Orlando NTC continued monitoring IRAs O&M/LTM at OUs 1, 2, 3, 4, and SAs 17, 36, 36 NW, and 52. The installation also continued monitoring and evaluating off-site contamination at OUs 2, 3, and 4, and SAs 17 and 36 NW. The cost of completing environmental restoration has changed significantly due to changes in estimating criteria.

Regulatory issues delayed the transfer of remaining property.

## FY07 MMRP Progress

The Navy has identified no MMRP sites at this installation.

## Plan of Action

Plan of action items for Orlando Naval Training Center are grouped below according to program category.

### IRP

- Monitor IRAs O&M/LTM at OUs 1, 2, 3, 4, and SAs 2, 17, 36, and 36 NW in FY08.
- Implement all RAs in FY08.
- Monitor and evaluate off-site contamination at OUs 2, 3, 4, and SAs 2, 17, and 36 NW in FY08.
- Complete SA 36 NW additional delineation around homes at main base in FY08-FY09.
- Transfer remaining property at McCoy Annex (OU 2) and SA 17 in FY08-FY09.

### MMRP

There are no MMRP actions scheduled for FY08 or FY09.

**FFID:** TX69799F676300,TX69799F655100  
**Size:** 16,000 acres  
**Mission:** Produce and store military weapons  
**HRS Score:** 51.22; placed on NPL in May 1994  
**IAG Status:** Under negotiation  
**Contaminants:** VOCs, SVOCs, heavy metals, UXO, explosives  
**Media Affected:** Groundwater, Surface Water, Sediment, Soil  
**Funding to Date:** \$ 12.3 million

**Est. CTC (Comp Year):** \$ 7.2 million (FY 2045)  
**IRP Sites (Final RIP/RC):** 4 (FY2015)  
**MMRP Sites (Final RIP/RC):** 2 (FY2045)  
**Five-Year Review Status:** A 5-year review is not required for this installation.



Pantex Village, Texas

### Progress To Date

The former Pantex Ordnance Plant began operations in 1942 as an Army Ordnance Corps facility and was excised in 1947. The property is now owned by DOE and Texas Tech University (TTU). Operations conducted on the active DOE site include fabrication, assembly, testing, and disassembly of nuclear ammunition and weapons. Sources of contamination have included burning of chemical waste in unlined pits, burial of waste in unlined landfills, and discharge of plant wastewaters into on-site surface water. The southern part of the property is used as an experimental agricultural research farm by TTU. DOE is solely investigating sites on their property. EPA placed the property on the NPL in May 1994. The U.S. Army Corps of Engineers (USACE) established an electronic administrative record for the TTU FUDS property in FY03.

A preliminary assessment and site inspection (SI) in FY90 identified nine areas of emphasis for investigation. The cleanup progress for Pantex Plant for FY03 through FY06 is detailed below.

In FY03, USACE completed environmental investigations at the former Bomb Loading Line area (Zone 9) and other areas of concern (AOCs), including Zone 1, the Burning Grounds, Carbon Black Pits, Landfill, and Lake Mounds areas. In addition, USACE presented investigation results for Zone 9 to Texas Commission on Environmental Quality (TCEQ). DoD continued potentially responsible parties (PRP) discussions with landowners. USACE determined the extent of munitions constituents in soil at Zone 9. USACE established an electronic administrative record for the TTU FUDS.

In FY04, USACE completed environmental investigations to determine the extent of contamination for all AOCs, including Zone 2, and continued investigations for sites that required additional data. Additionally, USACE presented investigation results for Zones 1 and 9, the Burning Grounds, Carbon Black Pits, Landfill, Rock Pile, and Lake Mounds AOCs to TCEQ, DOE, and TTU. PRP discussions with TTU and DOE continued. USACE initiated a remedial investigation (RI) report and feasibility study (FS) for cleanup of all DoD responsible AOCs. No Military Munitions Response Program (MMRP) work was performed at this property.

In FY05, USACE submitted an RI report to regulators for investigations at nine AOCs and performed additional SIs to fill data gaps identified during the RI. USACE continued PRP discussions with TCEQ, TTU, and DOE. Pantex Ordnance Plant received an updated right-of-entry from TTU for a two-year permit. USACE initiated preparation of a public involvement plan (PIP).

In FY06, USACE conducted additional sampling and prepared an addendum to the RI to fill data gaps. The PIP for former Pantex Ordnance Plant was completed. USACE developed and placed an administrative record in the Amarillo College and Carson County Public Libraries. The Tulsa District, USACE, transmitted the Installation Restoration Program (IRP) RI report to the state regulators. TCEQ sent a letter to all PRPs and committed to scheduling a meeting to establish responsibilities. USACE revised the MMRP work plan and received regulatory acceptance of the signed DOE Security Plan Agreement for fieldwork execution. It also completed the fieldwork for the MMRP RI. USACE developed the draft RI report and provided additional requested information to the lead regulatory agency. USACE developed an RI fact sheet, in preparation for public distribution. The RI addendum report was completed.

### FY07 IRP Progress

USACE reviewed and finalized the draft RI addendum report. An RI addendum was issued to address regulatory concerns. The cost of completing environmental restoration has changed significantly due to technical issues and changes in estimating criteria.

Regulatory issues delayed the preparation and presentation of a remedial action (RA) proposed plan (PP) at a public meeting; monitoring of groundwater in Zone 9; and the removal of contaminated soil in three areas.

### FY07 MMRP Progress

USACE reviewed and revised the draft RI report. A draft final RI report was submitted.

### Plan of Action

Plan of action items for Pantex Plant are grouped below according to program category.

#### IRP

- Initiate supplemental RI/FS activities in FY08.
- Prepare an FS in FY08.
- Conduct further investigations at Zones 2 and 9, Carbon Black Pits, and the groundwater in FY08.
- Prepare and present RA PP at the public meeting in FY08.
- Complete contaminated soil removal in three areas in FY08.

#### MMRP

- Complete the RI/FS in FY08.
- Evaluate remedial options for completion of the FS in FY08.
- Initiate RA or additional studies in FY08.

<b>FFID:</b>	SC417302276300	<b>Funding to Date:</b>	\$ 20.3 million
<b>Size:</b>	8,043 acres	<b>Est. CTC (Comp Year):</b>	\$ 16.6 million (FY 2016)
<b>Mission:</b>	Receive, recruit, and combat-train enlisted personnel upon their enlistment in the Marine Corps	<b>IRP Sites (Final RIP/RC):</b>	25 (FY2011)
<b>HRS Score:</b>	50.00; placed on NPL in December 1994	<b>MMRP Sites (Final RIP/RC):</b>	8 (FY2018)
<b>IAG Status:</b>	FFA signed in 2005	<b>Five-Year Review Status:</b>	Completed
<b>Contaminants:</b>	Pesticides, paints, POLs, solvents, industrial wastes, metals, acids, electrolytes, ordnance compounds, VOCs, SVOCs		
<b>Media Affected:</b>	Groundwater, Surface Water, Sediment, Soil		



Parris Island, South Carolina

**Progress To Date**

The Parris Island Marine Corps Recruit Depot (MCRD Parris Island) receives, recruits, and combat-trains enlisted personnel upon their enlistment in the Marine Corps. EPA placed the installation on the NPL in December 1994 due to contamination at two landfill sites. Sites at the installation include landfills or spill areas where groundwater and sediment are contaminated with solvents and petroleum/oil/lubricants (POLs). The installation began to compile an administrative record in FY96 and completed a community relations plan in FY98. There has been no community interest in forming a Restoration Advisory Board. The installation signed a federal facility agreement (FFA) and completed a 5-year review in FY05.

To date, the installation has signed an interim Record of Decision (ROD) for Site 1 corrective action plan (CAP), 2, 3, and 12. In FY02, the Navy completed an inventory of all Military Munitions Response Program (MMRP) sites. The cleanup progress at MCRD Parris Island for FY03 through FY06 is detailed below.

In FY03, MCRD Parris Island transferred the contamination assessment at the fiber optic vault from the underground storage tank program to the Installation Restoration Program (IRP) due to the evidence of chlorobenzene in the groundwater. The installation injected Chemox at Solid Waste Management Unit (SWMU) 45 and continued groundwater sampling. The initial assessment for implementing the CAP at the gas station was completed; however, an additional assessment was required and monitoring continued. The installation continued monitoring Building 4022 and the aviation gasoline (AVGAS) pipeline. The Site 1 work plan was approved and construction began.

In FY04, the installation developed a remedial investigation (RI) addendum work plan to sample the groundwater plume and define the path forward for SWMU 45. It also completed the RCRA facility assessment at fiber optic vault Site 55. The installation issued a draft proposed plan (PP) for SWMU 12. It also completed the landfill Site 1 CAP, and developed a draft long-term management (LTM) work plan. The installation completed the CAP at the Depot gas station, monitored the AVGAS pipeline and Building 850, and completed negotiations on the FFA.

In FY05, MCRD Parris Island issued a PP and draft ROD for Site 12. It awarded a fixed-price environmental multi-award contract for Site 12 and issued a draft remedial action work plan. The installation completed a LTM work plan for Site 1 and continued monitoring at Sites 1, 3, and 45. The CAP for the Depot gas station was implemented and sampling was completed. The installation also continued work at the Depot gas station and the AVGAS pipeline. The installation received a no further action letter for Building 850. The installation signed the FFA and completed a 5-year review.

In FY06, MCRD Parris Island signed RODs for Sites 1 CAP and 2. Additionally, the Marine Corps completed a removal action and signed a ROD for Site 12. The installation completed the RCRA facility investigation addendum while continuing a treatability study (TS) and feasibility study (FS) at Site 45. The Marine Corps continued monitoring at Sites 1 and 3, Depot gas station, and AVGAS pipeline.

**FY07 IRP Progress**

MCRD Parris Island submitted the completion report for Site 12 removal action and submitted land use control remedial design for Sites 1 and 12, and continued LTM for Sites 1 and 3. The Marine Corps submitted an RI work plan for Site 27. MCRD Parris Island continued work in support of Site 45.

**FY07 MMRP Progress**

MCRD Parris Island awarded site inspections (SIs) for all eight sites.

**Plan of Action**

Plan of action items for Parris Island Marine Corps Recruit Depot are grouped below according to program category.

**IRP**

- Complete TS and FS at Site 45 in FY08.
- Continue monitoring at Sites 1 and 3, Depot gas station, and AVGAS pipeline in FY08.
- Complete RI and conduct sampling at Site 27 in FY08.
- Submit final ROD for Site 3 in FY08-FY09.

**MMRP**

- Complete SIs for all eight sites in FY08-FY09.

<b>FFID:</b>	MD317002453600	<b>Funding to Date:</b>	\$ 55.3 million
<b>Size:</b>	6,800 acres	<b>Est. CTC (Comp Year):</b>	\$ 29.0 million (FY 2015)
<b>Mission:</b>	Test and evaluate naval aircraft systems	<b>IRP Sites (Final RIP/RC):</b>	62 (FY2013)
<b>HRS Score:</b>	36.87; placed on NPL in May 1994	<b>MMRP Sites (Final RIP/RC):</b>	None
<b>IAG Status:</b>	None	<b>Five-Year Review Status:</b>	Completed and planned
<b>Contaminants:</b>	Heavy metals, pesticides, organics, POLs, solvents, UXO, VOCs, SVOCs, explosives, propellants		
<b>Media Affected:</b>	Groundwater, Surface Water, Sediment, Soil		



Lexington Park, Maryland

**Progress To Date**

Patuxent River Naval Air Station (NAS) tests and evaluates naval aircraft systems. Three sites were placed on the NPL in May 1994: a Fishing Point Landfill site (Site 1), the former sanitary landfill (Site 11), and the pest control shop (Site 17). Wastes managed at the sites included mixed solid wastes, petroleum/oil/lubricants (POLs), paints, thinners, solvents, pesticides, and photographic laboratory wastes. In 2005, the BRAC Commission recommended Patuxent River NAS for realignment. The installation formed a technical review committee in FY90 and completed a community relations plan in FY91, which is updated every three years. A Restoration Advisory Board that meets quarterly was established in FY94. The Navy regularly updates an administrative record and two information repositories. The installation completed 5-year reviews in FY01 and FY04.

To date, the installation has completed Record of Decision (ROD) documents for Sites 1, 11, and 12. In addition, a ROD amendment was completed for Site 17. Patuxent River NAS completed no further action (NFA) proposed remedial action plan (PRAP) RODs for Sites 24 and 29, and a PRAP ROD for Site 39 in FY07. The installation closed Site 6A (6 Operable Unit [OU] 1) in FY04. In FY02, the Navy completed an inventory of all Military Munitions Response Program (MMRP) sites. The cleanup progress at Patuxent River NAS for FY03 through FY06 is detailed below.

In FY03, Site 37 reached closeout with NFA required. In addition, the installation completed investigations for Sites 48, 49, 50, and 52. The installation initiated the remedial investigation and feasibility study (RI/FS) efforts at Sites 4, 5, 6 (OU 2), 11 (OU 2), 17 (OU 2), and 46, exceeding the goal of four sites. It also initiated preliminary assessment and site inspection efforts at five sites, exceeding the goal of two sites. One ROD was completed. Interim remedial action (IRA) work at Sites 4 and 5 proceeded on schedule.

In FY04, the installation closed Site 6A (6 OU 1) and Site 46 through completion of the RI/FS and NFA ROD. Patuxent NAS also completed a basewide 5-year review with no outstanding actions requiring further action.

In FY05, Patuxent River NAS completed the FS, and the PRAP/ROD for Sites 1/12 OU 2 and the Rifle Range Landfill. The installation completed two of four RI/FS documents, and four of eight desktop evaluations.

In FY06, Patuxent River NAS completed the RI/FS and PRAP/ROD for Site 17 OU 2. The installation achieved NFA at five sites.

**FY07 IRP Progress**

Patuxent River NAS completed an NFA PRAP/ROD for Sites 24 and 29. The installation also completed a PRAP/ROD for Site 39 and an IRA for Site 31.

Patuxent River NAS initiated the Site 1/12 OU 2 remedial action (RA); however, technical issues delayed completion of the remedial design (RD). Technical issues also delayed the Site 4 RD/RA. The Navy also initiated the Site 17 OU 2 RA; however, regulatory issues delayed its completion along with the RD.

**FY07 MMRP Progress**

The Navy has identified no MMRP sites at this installation.

**Plan of Action**

Plan of action items for Patuxent River Naval Air Station are grouped below according to program category.

**IRP**

- Complete PRAP/ROD for five sites in FY08-FY09.
- Complete Site 1/12 RA, Site 17 (OU 2) RA in FY08-FY09.
- Complete RD and initiate RA at Site 39 in FY08-FY09.
- Complete four RI/FS documents in FY08-FY09.

**MMRP**

There are no MMRP actions scheduled for FY08 or FY09.

<b>FFID:</b>	HI917002434200, HI917002477900, HI917002434100, HI917002434000, HI917002433900, and HI917002433400	<b>Funding to Date:</b>	\$ 180.0 million
<b>Size:</b>	2,162 acres	<b>Est. CTC (Comp Year):</b>	\$ 137.7 million (FY 2035)
<b>Mission:</b>	Provide primary fleet support in the Pearl Harbor area	<b>IRP Sites (Final RIP/RC):</b>	93 (FY2014)
<b>HRS Score:</b>	70.82; placed on NPL in October 1992	<b>MMRP Sites (Final RIP/RC):</b>	1 (FY2004)
<b>IAG Status:</b>	FFA signed in March 1994	<b>Five-Year Review Status:</b>	Planned
<b>Contaminants:</b>	VOCs, SVOCs, heavy metals, PCBs, pesticides, petroleum, hydrocarbons, solvents, explosives, propellants		
<b>Media Affected:</b>	Groundwater, Surface Water, Sediment, Soil		



Pearl Harbor, Hawaii

**Progress To Date**

The Pearl Harbor Naval Complex consists of seven installations: the Fleet and Industrial Supply Center (FISC), the Naval Station (NS), the Naval Magazine (NAVMAG), the Naval Shipyard (NSY) and Intermediate Maintenance Facility, the Public Works Center (PWC), the Naval Submarine Base, and the Inactive Ship Maintenance Facility. Fuel supply activities, landfills, and other support operations have contaminated the soil and groundwater with volatile organic compounds (VOCs), semivolatle organic compounds (SVOCs), and metals. A technical review committee, formed in FY90, was converted to a Restoration Advisory Board (RAB) in FY95. The installation established three information repositories in FY90 and an administrative record in FY92. The installation was placed on the NPL in October 1992. The installation signed a federal facility agreement (FFA) in March 1994. A community involvement plan was completed in FY92 and updated in FY95 and FY05.

The installation has completed one Record of Decision (ROD) for FISC Site 33. In FY02, the Navy completed an inventory of all Military Munitions Response Program (MMRP) sites. The cleanup progress at Pearl Harbor Naval Complex for FY03 through FY06 is detailed below.

In FY03, the installation continued the remedial action operations (RA-O) at Sites 25, 29, 36, 37, 45, and 46 and the remedial investigation and feasibility study (RI/FS) for Site 19. The Navy completed the removal action and remediation verification reports (RVRs) for Sites 25 and 45, the RI/FS for NS Sites 51 through 57, the draft final RI/FS for NS Site 31, and initiated removal actions for NS Sites 51 and 53 through 57. Removal actions continued at the PWC Sites 4 and 43, and for NS Sites 31 and 35, transformer sites PWC Site 34, NAVMAG Site 19, and NS Site 52. The installation completed the draft groundwater RI for Sites 33 and 39, and supplemental RI for Site 22. The installation completed the draft expanded site inspection (SI) for NSY Site 42, the draft SI for NAVMAG West Loch and Waipio Peninsula Geographic Study Areas, the final site summary report (SSR) for Shipyard Geographic Study Area, and the final SSR amendments for Halawa-Main-Gate, Pearl City Peninsula, and West Loch. Draft final planning documents for site characterization for PWC Site 47 were completed. The Navy added an MMRP site at the NAVMAG

West Loch for further investigation of potential munitions-generated constituents in a burning pit. The installation provided site tours for the RAB of NS Sites 51 and 53 through 57, the Material Minimization Facility Center, the Fort Kamehameha Wastewater Treatment Plant, and the Bilge Water/Oily Waste Treatment Facility. In addition, the installation partnered with the EPA Superfund Innovative Technology Evaluation program on two innovative technology treatment demonstrations.

In FY04, the installation completed removal actions for NS Sites 51 and 53 through 57, and PWC Site 34 and continued removal actions at NS Site 31, RA-O at Sites 25, 29, 36, 37, 45, and 46, and an RI for NS Site 19. The installation initiated the removal site evaluation (RSE) at NS Solid Waste Management Unit (SWMU) 6. The installation finalized the innovative Technology Evaluation Report for NSY Site 10 and initiated the SI for NSY Site 49. The installation completed the combined SI for West Loch and Waipio Peninsula and initiated the RSE at PWC Sites 2 and 48 and continued the SI report for SWMU 44.

In FY05, the installation initiated the RSE for FISC Site 26. The installation continued RA-O at Sites 25, 29, 36, 37, 45, and 46, and an RI for NS Site 19. The installation continued the SI for NSY SWMU 44, and the proposed plan (PP) for NSY Site 41, and RSE for PWC Sites 2, 25, and 48. The installation initiated SI fieldwork for NSY Site 49 and an SI for SWMU 84, and completed the RVR for NS Sites 51 and 53 through 57.

In FY06, Pearl Harbor Naval Complex completed an RSE for NS SWMU 6 and PWC Site 2. The installation completed RODs for FISC Site 33 and NAVMAG Site 9. Additionally, the installation completed PPs for NSY Site 41 and NAVMAG Site 9. The installation initiated an FS for FISC Site 39 and completed removal actions for NS Site 35 and FISC Site 26. A site characterization was initiated at PWC Site 47. The installation also completed a draft SI for NSY Site 49 and a final SI for NSY SWMU 44. The Navy initiated removal action for FISC Site 44. Pearl Harbor Naval Complex continued RA-O at NS Sites 25, 29, 36, 37, 45, and 46. The installation initiated a preliminary assessment (PA) for NAVMAG unexploded ordinance (UXO) Site 7.

**FY07 IRP Progress**

Pearl Harbor Naval Complex completed a removal action at NS SWMU 6 and an FS for FISC Site 39. The installation completed a draft RI report for PWC Site 47. The cost of completing environmental restoration has changed significantly due to technical issues.

Regulatory issues delayed the RI/FS for NS Site 31, and the FS work plan at NS Site 19. RI efforts are ongoing at both PWC Site 2 and FISC Site 44; however, regulatory issues delayed completion of the engineering evaluation and cost analysis for PWC Site 2 and the removal action at FISC Site 44.

**FY07 MMRP Progress**

Pearl Harbor Naval Complex completed the PA for NAVMAG UXO Site 7.

**Plan of Action**

Plan of action items for Pearl Harbor Naval Complex are grouped below according to program category.

**IRP**

- Complete RI/FS for PWC SWMU 13 and NS Site 31 in FY08-FY09.
- Complete RI for FISC Site 45 and PWC Site 47 in FY08-FY09.

**MMRP**

- Initiate SI for NAVMAG UXO Site 7 in FY08.

<b>FFID:</b>	NH157002484700	<b>Funding to Date:</b>	\$ 161.7 million
<b>Size:</b>	4,255 acres	<b>Est. CTC (Comp Year):</b>	\$ 20.0 million (FY 2048)
<b>Mission:</b>	Served as Strategic Air Command bomber and tanker base	<b>IRP Sites (Final RIP/RC):</b>	61 (FY2009)
<b>HRS Score:</b>	39.42; placed on NPL in February 1990	<b>MMRP Sites (Final RIP/RC):</b>	1 (FY1996)
<b>IAG Status:</b>	FFSRA signed in September 1992; renegotiated in July 2002	<b>Five-Year Review Status:</b>	Completed and planned
<b>Contaminants:</b>	VOCs, spent fuels, waste oils, POLs, pesticides, paints, TCE, SVOCs, metals		
<b>Media Affected:</b>	Groundwater, Surface Water, Sediment, Soil		



Portsmouth/Newington, New Hampshire

**Progress To Date**

Pease Air Force Base (AFB) served as a Strategic Air Command bomber and tanker base. The BRAC Commission recommended closure of Pease AFB in 1988, and EPA placed the installation on the NPL in February 1990. In March 1991, the installation closed. Studies identified the following site types: fire training areas, burn pits, industrial facilities, landfills, and underground storage tanks. The installation signed a federal facility site remediation agreement (FFSRA) in September 1992, which was renegotiated in July 2002 to address early transfers. Groundwater and soil are contaminated with petroleum products (JP-4 jet fuel) and industrial solvents, such as trichloroethylene (TCE). Before closure, the installation completed interim remedial actions (RAs) at four sites, soil removal at three sites, and test pit operations at two sites. The installation formed a BRAC cleanup team (BCT) in FY93 and a Restoration Advisory Board (RAB) in FY95. The installation completed 5-year reviews in FY99 and FY04.

To date, 10 Records of Decision (RODs) have been signed. In FY04, the Air Force conducted an inventory of Military Munitions Response Program (MMRP) sites. The cleanup progress at Pease AFB for FY03 through FY06 is detailed below.

In FY03, the installation prepared and submitted the draft final ROD amendment for the Zone 3 remedy change. The institutional control (IC) management plan was developed, and implementation of the plan began. The installation submitted the RA plan for flightline sites to the State. RA system operation, monitoring, long-term management, and trend analysis continued.

In FY04, the installation constructed the wellhead protection system for the Haven Well. The installation completed a detailed characterization of refueling system contamination near the well, including an analysis of the alternatives meeting New Hampshire requirements for RA at the site. Monitoring and the operation of remedial systems continued. The installation initiated optimization evaluations for several locations. An operating properly and successfully (OP&S) demonstration was accepted by EPA for Site 73 (ID 073), and OP&S documentation was drafted for the remaining Zone 3 sites. The installation completed the second 5-year review. The Air Force

conducted an inventory of MMRP sites. MMRP sites were identified at this installation.

In FY05, the installation completed the RA plan for Plumes 13/14 located in the flightline area. The installation continued monitoring and operations of remedial systems and continued optimization activities. In addition, the installation completed the OP&S demonstration for Zone 3 and Site 49. The installation developed findings of suitability to transfer for the remaining parcels and transferred all remaining property to the Pease Development Authority. The Air Force began evaluating requirements at MMRP sites at this installation. RAB and BCT activities continued.

In FY06, Pease AFB continued monitoring and optimization efforts for all sites. The installation awarded the contract for the installation and operation of the RA for Plume 13/14. The installation evaluated requirements at MMRP sites.

**FY07 IRP Progress**

Pease AFB began construction of the Plume 13/14 remedy and continued to operate, monitor, and optimize remedial systems. Pease AFB also continued monitoring IC compliance with no variances found. The cost of completing environmental restoration has changed significantly due to changes in estimating criteria.

**FY07 MMRP Progress**

Required closure action was not completed due to administrative issues.

**Plan of Action**

Plan of action items for Pease Air Force Base are grouped below according to program category.

**IRP**

- Complete Plume 13/14 RA in FY08.
- Continue to operate, monitor, and optimize remedial systems in FY08-FY09.
- Continue to monitor IC compliance in FY08-FY09.

**MMRP**

- Complete required closure actions in FY08.

<b>FFID:</b>	FL417002461000	<b>Media Affected:</b>	Groundwater, Surface Water, Sediment, Soil
<b>Size:</b>	5,874 acres	<b>Funding to Date:</b>	\$ 73.3 million
<b>Mission:</b>	Serve as a flight training center	<b>Est. CTC (Comp Year):</b>	\$ 40.0 million (FY 2048)
<b>HRS Score:</b>	42.40; placed on NPL in December 1989	<b>IRP Sites (Final RIP/RC):</b>	61 (FY2014)
<b>IAG Status:</b>	FFA signed in October 1990	<b>MMRP Sites (Final RIP/RC):</b>	None
<b>Contaminants:</b>	Ammonia, asbestos, benzene, cyanide, heavy metals, paints, PCBs, pesticides, phenols, chlorinated and nonchlorinated solvents, plating wastes, VOCs, SVOCs, explosives, propellants	<b>Five-Year Review Status:</b>	Completed and planned



Pensacola, Florida

**Progress To Date**

Pensacola Naval Air Station (NAS), which now serves as a flight training center, was formerly a naval air rework facility and an aviation depot. Operations that have caused contamination at the station include machine shops, a foundry, coating and paint shops, paint stripping and plating shops, various maintenance and support facilities, landfills, and storage facilities. Investigations have identified 38 CERCLA sites, 1 solid waste management unit (SWMU), and 14 underground storage tank (UST) sites. Site types include landfills, disposal sites, polychlorinated biphenyls (PCBs) transformer and spill areas, industrial wastewater treatment plant areas, and evaporation ponds. The installation was placed on the NPL in December 1989, and a federal facility agreement (FFA) was signed in October 1990. In 2005, the BRAC Commission recommended Pensacola NAS for realignment. The installation formed a technical review committee in FY90 and converted it to a Restoration Advisory Board in FY94. In FY03, the installation completed a 5-year review.

Installation Restoration Program (IRP) sites have been identified at Pensacola NAS. Twelve Records of Decision (RODs) have been signed by the installation, including seven for no further action (NFA). In FY02, the Navy completed an inventory of all Military Munitions Response Program (MMRP) sites. The cleanup progress at Pensacola NAS for FY03 through FY06 is detailed below.

In FY03, the installation removed the groundwater recovery system and continued monitoring for SWMU 1. The installation also completed the 5-year review. An interim remedial action (IRA) was initiated at Sites 8 and 24. The installation began remedial action plans (RAPs) for UST Sites 20 and 24.

In FY04, Pensacola NAS continued groundwater monitoring at SWMU 1, and completed RAPs for UST Sites 20 and 24. The IRA was completed.

In FY05, Pensacola NAS completed the NFA ROD for Site 40 Operable Unit (OU) 15. The Navy completed remedial investigation at Sites 44, 45, and 46. The installation completed groundwater monitoring at SWMU 1 and cleanup at UST Sites 15 and 21.

In FY06, Pensacola NAS completed the NFA ROD for Site 02 (OU 03). The Navy continued groundwater monitoring at SWMU 1, Site 01 (OU 01), and Site 15 (OU 04).

**FY07 IRP Progress**

Pensacola NAS was awarded remedial action fieldwork for UST 20. The installation completed the ROD with land use controls (LUCs) for Sites 8 and 24 (OU 13), and Site 38 (OU 11). The installation continued groundwater monitoring at Sites 01 (OU 01), 15 (OU 01), and SWMU 1. Pensacola NAS implemented optimization fieldwork at Site 01 (OU 01). The Navy achieved NFA status for UST 19.

Administrative issues delayed finalizing the ROD with LUCs for OU2.

**FY07 MMRP Progress**

The Navy has identified no MMRP sites at this installation.

**Plan of Action**

Plan of action items for Pensacola Naval Air Station are grouped below according to program category.

**IRP**

- Finalize ROD with LUCs for OU 02 (Sites 11, 12, 25, 26, 27, and 30) in FY08.
- Complete 5-year review in FY08.
- Continue groundwater monitoring at SWMU 1, Sites 01, 8, 15, 24, and UST 17 in FY08-FY09.

**MMRP**

There are no MMRP actions scheduled for FY08 or FY09.

<b>FFID:</b>	PA317002775600, PA317002219800, and PA317002241800	<b>Funding to Date:</b>	\$ 20.6 million
<b>Size:</b>	1,494 acres	<b>Est. CTC (Comp Year):</b>	\$ 0.6 million (FY 2009)
<b>Mission:</b>	Provide logistical support for ships and service craft; overhaul, repair, and outfit ships and craft; conduct research and development; test and evaluate shipboard systems	<b>IRP Sites (Final RIP/RC):</b>	31 (FY2008)
<b>HRS Score:</b>	N/A	<b>MMRP Sites (Final RIP/RC):</b>	None
<b>IAG Status:</b>	None	<b>Five-Year Review Status:</b>	Completed
<b>Contaminants:</b>	POLs, heavy metals, PCBs, solvents, VOCs, SVOCs		
<b>Media Affected:</b>	Groundwater, Sediment, Soil		



Philadelphia, Pennsylvania

**Progress To Date**

Philadelphia Naval Complex comprises Philadelphia Naval Shipyard (NSY), Naval Station (NS), and Naval Hospital (NH). In December 1988, the BRAC Commission recommended closure of the Philadelphia NH, and in July 1991, recommended closure of the Philadelphia NS and the Philadelphia NSY. Site types at the complex include landfills, oil spill areas, and disposal areas where petroleum/oil/lubricants (POLs) and heavy metals were released into groundwater and soil. A preliminary assessment and site inspection completed in FY88 identified 15 sites. The complex formed a technical review committee in FY89 and later established a Restoration Advisory Board (RAB). The installation formed a BRAC cleanup team and prepared a BRAC cleanup plan (BCP) in FY94. The BCP was revised in FY97. In FY95, an information repository was established and a community relations plan was written. In FY01, a technical assistance for public participation grant was obtained to provide the RAB with input during the property transfer process. Upon completion of all property transfer, the RAB shifted its focus to the Navy-retained property at the Naval Surface Warfare Center-Ship System Engineering Station. The installation completed a 5-year review in FY04.

Installation Restoration Program (IRP) sites were identified at Philadelphia Naval Complex. The installation has signed eight Records of Decision and has transferred 1,218 acres of property. In FY02, the Navy completed an inventory of all Military Munitions Response Program (MMRP) sites. The cleanup progress at Philadelphia Naval Complex for FY03 through FY05 is detailed below.

In FY03, the installation completed the 5-year review pending a final signature. In addition, the installation completed the long-term management (LTM) well repair, and repair of the banks and gabion baskets; however, additional work was needed on one well. The installation continued the LTM for Sites 4 and 5.

In FY04, Philadelphia Naval Complex received the final signature on the 5-year review. The installation also completed the well repair for one well and the replacement of another. The Navy petitioned regulators to end LTM at Sites 4 and 5.

In FY06, Philadelphia Naval Complex discovered new contamination at Site 4.

**FY07 IRP Progress**

Philadelphia Naval Complex initiated discussions with regulators regarding discontinuing LTM at Sites 4 and 5. The installation initiated maintenance inspections to determine necessary repairs to landfills at Sites 4 and 5, and also initiated discussions with regulators regarding the need for additional remedial action (RA) to address new contamination at Site 4. The cost of completing environmental restoration has changed significantly due to technical issues and changes in estimating criteria.

Regulatory issues delayed the LTM decision. Technical issues delayed performing maintenance and repairs to landfills at Sites 4 and 5.

**FY07 MMRP Progress**

The Navy has identified no MMRP sites at this installation.

**Plan of Action**

Plan of action items for Philadelphia Naval Complex are grouped below according to program category.

**IRP**

- Finalize Site 4 LTM discontinuation agreement with regulators in FY08.
- Complete inspection and necessary maintenance repairs at Sites 4 and 5 in FY08.
- Resolve whether further RA is needed to address additional contamination at Site 4 in FY08.

**MMRP**

There are no MMRP actions scheduled for FY08 or FY09.

<b>FFID:</b>	NJ221382070400	<b>Funding to Date:</b>	\$ 113.9 million
<b>Size:</b>	6,500 acres	<b>Est. CTC (Comp Year):</b>	\$ 90.1 million (FY 2038)
<b>Mission:</b>	Serve as host to the Army Armaments Research, Development, and Engineering Center	<b>IRP Sites (Final RIP/RC):</b>	176 (FY2013)
<b>HRS Score:</b>	42.92; placed on NPL in February 1990	<b>MMRP Sites (Final RIP/RC):</b>	11 (FY2018)
<b>IAG Status:</b>	IAG signed in July 1991	<b>Five-Year Review Status:</b>	Completed
<b>Contaminants:</b>	VOCs, explosives, PCBs, heavy metals, SVOCs, propellants, radioactive materials		
<b>Media Affected:</b>	Groundwater, Surface Water, Sediment, Soil		



Rockaway Township, New Jersey

**Progress To Date**

In 1880 Dover Powder Depot, now known as Picatinny Arsenal, was established to store the gunpowder needed to manufacture ammunition. From 1898 to the early 1970s, the installation manufactured explosives, propellants, and ammunition. It now houses the Armament Research, Development and Engineering Center (ARDEC). EPA placed Picatinny on the NPL in February 1990. The Army and EPA signed an interagency agreement (IAG) in July 1991. In FY91, the installation identified contamination sites including a burning ground, landfills, underground storage tanks, former production areas, and former testing sites. Releases of volatile organic compounds (VOCs), explosives, and heavy metals from these sites have contaminated groundwater, surface water, sediment, and soil. The remedial investigation and feasibility study (RI/FS) in FY91 divided the identified sites at the installation into 16 areas. In FY96, the installation's technical review committee was converted to a Restoration Advisory Board (RAB). In FY98 and FY05, the installation procured technical assistance for public participation (TAPP) contracts to provide technical support for the RAB. A community relations plan was developed in FY00. Five-year reviews were completed in FY01 and FY06.

Environmental studies initially identified Installation Restoration Program (IRP) sites at the installation, 113 of which are response complete (RC), mostly through consolidation and identification of ineligible sites from the original list. In FY03, the Army completed an inventory of closed, transferred, and transferring (CTT) ranges and identified Military Munitions Response Program (MMRP) sites. The Army and EPA have signed four Records of Decision (RODs). The cleanup progress at Picatinny Arsenal for FY03 through FY06 is detailed below.

In FY03, the installation completed FSs for Sites 180 and 25/26. The installation signed a decision document addressing six lead-contaminated areas around the arsenal. The installation completed the cap for Site 20/24. The Army investigated Midvalley groundwater and submitted RI reports on over 60 sites to the regulators. The installation completed RC for 84 sites. The Army completed the Phase III inventory of CTT ranges and sites with unexploded ordnance (UXO), discarded military munitions, or munitions constituents. MMRP sites were identified.

In FY04, the Army and EPA signed the Area D Groundwater ROD for the replacement of the pump-and-treat hydraulic barrier with a permeable reactive barrier and monitored natural attenuation (MNA). The installation completed the removal of sediment for the retention basin of Bear Swamp Brook and the proposed plans (PPs) for Site 25/26 and Area E. The installation removed lead-contaminated soils at six sites and submitted the RI report for all sites in Areas H, I, J, and K. The Army approved FSs for Sites 64/104 and 180, and Groups 1 and 3. The Army provided the CTT report to regulators for review.

In FY05, the installation completed three RODs for the Post Farm Landfill, Green Pond Brook and Site 34 of the Burning Grounds. Six major RI reports have been approved that address over 70 sites. The installation submitted FSs for the former Defense Reutilization and Marketing Office (DRMO) Yard and 25 sites. The installation completed five pilot studies of contaminated groundwater, including magnus techniques for bioremediation and a nano-iron groundwater study. The Army approved a TAPP contract for the installation.

In FY06, the Army awarded a performance-based contract (PBC) for most of the IRP sites. The installation submitted FSs for Building 31/33 and the Midvalley Area. The installation also initiated the remedial design for the permeable reactive wall and MNA for Area D Groundwater, the Green Pond Brook ROD, the Post Farm, and long-term monitoring. The Army submitted an ecological risk assessment for Phases I and III. The installation completed the Area B PP for public notice. ARDEC completed a 5-year review and EPA agreed with the determinations. The installation conducted a historical records review (HRR) on the MMRP sites and developed a site inspection (SI) work plan. The Army approved and submitted the HRR. The Army also signed a time-critical removal action (TCRA) for off-site UXO contamination from a 1926 explosion. The neighboring mining operation had discovered up to seven UXOs on the property during mining operations. A contract was awarded to initiate the TCRA.

**FY07 IRP Progress**

Picatinny Arsenal considered eight sites remedy in place (RIP) under the terms of the PBC. The Army installed the permeable reactive barrier for the Area D groundwater, removing the contaminated sediments related to the Green Pond Brook ROD and the cover for contaminated soils, and formally implemented land use controls at Site 180 and the 13 sites in PICA Area 20. The installation completed the ROD at Area E Groundwater and Post Farm and submitted the closure report. The Army released public notice of the PPs for two sites (PICA Area 72 and 206). The installation began a groundwater pilot study in the Group 1 Groundwater site. The installation completed a pilot study of Group 3 sites.

The Army held a RAB meeting. TAPP provided a quarterly newsletter to the RAB community.

**FY07 MMRP Progress**

The installation completed the removal action of the UXO on 28 acres of Ticon Mining property and submitted the report. The Army approved and conducted the MMRP HRR and SI work plan. The Army awarded a contract to conduct a removal action on 55 acres of leased property.

**Plan of Action**

Plan of action items for Picatinny Arsenal are grouped below according to program category.

**IRP**

- Complete RODs for Area C Groundwater, Former DRMO Yard, and Area B Groundwater in FY08.
- Release public notice for five PPs in FY08.
- Achieve RIP for 15 additional sites in FY08.
- Complete the Midvalley FS in FY08.

**MMRP**

- Finalize SI report in FY08.
- Complete removal action on leased property in FY08.

<b>FFID:</b>	NY257002477400	<b>Funding to Date:</b>	\$ 60.5 million
<b>Size:</b>	3,447 acres	<b>Est. CTC (Comp Year):</b>	\$ 23.7 million (FY 2084)
<b>Mission:</b>	Served as former bomber and tanker aircraft operations	<b>IRP Sites (Final RIP/RC):</b>	41 (FY2009)
<b>HRS Score:</b>	30.34; placed on NPL in November 1989	<b>MMRP Sites (Final RIP/RC):</b>	6 (FY2003)
<b>IAG Status:</b>	FFA signed in July 1991	<b>Five-Year Review Status:</b>	Completed and planned
<b>Contaminants:</b>	Organic solvents, pesticides, fuels, PCBs, lead, VOCs, SVOCs, metals		
<b>Media Affected:</b>	Groundwater, Surface Water, Sediment, Soil		



Plattsburgh, New York

**Progress To Date**

Plattsburgh Air Force Base (AFB) was placed on the NPL in November 1989 after the former fire training area was determined to be a source of chlorinated solvents and benzene, toluene, ethyl benzene, and xylene contamination in groundwater. In 1993, the BRAC Commission recommended closure of Plattsburgh AFB and the installation closed in September 1995. Site types include underground storage tanks, aboveground storage tanks, landfills, industrial facilities, spill sites, and training areas. In July 1991, the installation signed a federal facility agreement, which became effective September 1991. Plattsburgh AFB formed a technical review committee (TRC) in FY91. In FY94, the installation converted the TRC to a Restoration Advisory Board (RAB) to support cleanup efforts. In FY95, an installationwide environmental impact statement and a comprehensive land reuse plan were completed, and a community relations plan was drafted. In FY97, the Environmental Baseline Survey was updated. The BRAC cleanup plan was updated in FY04. Five-year reviews were completed in FY99 and FY04.

Environmental studies at Plattsburgh AFB have identified sites for investigation and cleanup. To date, regulatory concurrence has been received for the closeout of 21 sites. Records of Decision (RODs) have been completed for 36 sites to date. In FY04, the Air Force conducted an inventory of Military Munitions Response Program (MMRP) sites. The cleanup progress at Plattsburgh AFB for FY03 through FY06 is detailed below.

In FY03, the Air Force signed a final ROD for one site and an interim ROD for the Former Fire Training (FT) Area 002 (FT 002) to facilitate construction of the selected remedy. The installation initiated construction of the final remedy for this site.

In FY04, the installation partially completed construction of the remedy at FT 002 and initiated remedial action (RA) operation. The installation completed a preliminary assessment and site inspection (SI) at the former Weapons Storage Area. No further action (NFA) was recommended, and the appropriate documentation was completed. NFA decision documents were also completed for two other SIs. The second 5-year review was completed. The RAB conducted a tour of the FT 002 RA

construction. The Air Force conducted an inventory of MMRP sites. MMRP sites were identified at this installation.

In FY05, the installation completed construction of the FT 002 remedy. The installation also continued operation of remedial systems and long-term management (LTM) activities at other restoration sites. The Air Force began evaluating requirements at MMRP sites at this installation. The RAB held two meetings.

In FY06, Plattsburgh AFB continued operation of remedial systems and LTM activities in support of remedial programs. The installation initiated a remedial process optimization (RPO) study of the FT 002 source operable unit. The installation completed an evaluation of MMRP sites.

**FY07 IRP Progress**

Plattsburgh AFB continued operation of systems and LTM activities in support of remedial programs. An RPO study of the FT 002 source operable unit was completed, including evaluation of the soil vapor intrusion (SVI) pathway. The installation continued discussion of regulatory issues involving the SVI pathway. Plattsburgh AFB completed a remedial investigation at one site. The cost of completing environmental restoration has changed significantly due to regulatory issues and changes in estimating criteria.

Regulatory issues involving the SVI pathway delayed completion of RODs for three sites.

**FY07 MMRP Progress**

Administrative and technical issues delayed closure of identified MMRP sites.

**Plan of Action**

Plan of action items for Plattsburgh Air Force Base are grouped below according to program category.

**IRP**

- Resolve regulatory issues involving the SVI pathway for FT 002 in FY08.
- Finalize RODs for three sites in FY08.
- Finalize RODs for two sites in FY09.

**MMRP**

- Complete closure of MMRP sites in FY08.

<b>FFID:</b>	ME117002201900	<b>Est. CTC (Comp Year):</b>	\$ 26.6 million (FY 2037)
<b>Size:</b>	278 acres	<b>IRP Sites (Final RIP/RC):</b>	34 (FY2014)
<b>Mission:</b>	Maintain, repair, and overhaul nuclear submarines	<b>MMRP Sites (Final RIP/RC):</b>	1 (FY2005)
<b>HRS Score:</b>	67.70; placed on NPL in May 1994	<b>Five-Year Review Status:</b>	Planned
<b>IAG Status:</b>	FFA signed in 1999		
<b>Contaminants:</b>	Pesticides, PCBs, VOCs, heavy metals, SVOCs		
<b>Media Affected:</b>	Groundwater, Surface Water, Sediment, Soil		
<b>Funding to Date:</b>	\$ 53.2 million		



Kittery, Maine

**Progress To Date**

The Portsmouth Naval Shipyard (NSY) maintains, repairs, and overhauls nuclear submarines. A RCRA facility assessment in FY86 identified 28 solid waste management units (SWMUs). Site types at the installation include a landfill, a salvage and storage area, and waste oil tanks. In FY92, the installation completed a RCRA facility investigation. The installation was placed on the NPL in May 1994, because of groundwater contamination at sites on the island, and because past activities may have adversely impacted sensitive wetland communities around and downstream of the facility. The installation signed a federal facility agreement (FFA) in 1999. The installation formed a technical review committee in FY87, which was converted to a Restoration Advisory Board in FY95. Portsmouth NSY developed a community relations plan, which was updated in FY97. The Navy completed a 5-year review for OU 3 in FY07.

Portsmouth NSY has identified several Installation Restoration Program (IRP) sites. The installation completed and signed a no further action (NFA) document for SWMUs 12, 13, 16, and 23. The installation completed one Record of Decision (ROD). In FY02, the Navy completed an inventory of all Military Munitions Response Program (MMRP) sites. The cleanup progress at Portsmouth NSY for FY03 through FY06 is detailed below.

In FY03, the installation completed the Site 10 additional investigation report and construction of the Operable Unit (OU) 3 wetlands. In addition, the installation completed the remedial design for OU 3. Portsmouth NSY also completed the remedial investigation (RI) work plan for Site 32. A site visit for the preliminary assessment (PA) was performed.

In FY04, Portsmouth NSY completed the Phase I RI data package for Site 32, as well as the engineering evaluation and cost analysis for Site 30. The installation also started the Site 10 work plan and continued the remedial action (RA) for OU 3. The Navy identified and excavated 1,000 cubic yards of waste in sediment offshore of OU 3. The installation also continued interim offshore monitoring for OU 4, and started Rounds 1 through 7 of the trending report for interim offshore monitoring.

In FY05, Portsmouth NSY completed the RA for OU 3. The installation initiated OU 2 feasibility study and continued interim

offshore monitoring for OU 4. Portsmouth NSY finalized the PA and determined NFA for the MMRP site.

In FY06, Portsmouth NSY completed Site 10 fieldwork. The installation initiated an additional scrutiny report and continued the interim offshore monitoring for OU 4. The Navy initiated the operation, maintenance, and monitoring program of the Jamaica Island Landfill.

**FY07 IRP Progress**

Portsmouth NSY completed a 5-year review for OU 3. The installation finalized the RI for Site 10, and continued monitoring OU 4. The Navy completed draft NFA for the closure of the Jamaica Island Landfill Impact area and the Former Acid/Alkaline Drain Tank Sites. A removal action was initiated at Site 34.

**FY07 MMRP Progress**

The Navy conducted no MMRP actions at this installation.

**Plan of Action**

Plan of action items for Portsmouth Naval Shipyard are grouped below according to program category.

**IRP**

- Complete removal action at Site 34 in FY08.
- Complete RI report for OU 1 in FY08.
- Continue interim off-shore monitoring for OU 4 in FY08-FY09.
- Continue monitoring at OU 3 Jamaica Island Landfill and wetland area in FY08-FY09.
- Complete RI fieldwork for Sites 6 and 32 in FY08-FY09.

**MMRP**

There are no MMRP actions scheduled for FY08 or FY09.

<b>FFID:</b>	CO821382072500	<b>Funding to Date:</b>	\$ 127.2 million
<b>Size:</b>	23,121 acres	<b>Est. CTC (Comp Year):</b>	\$ 90.1 million (FY 2023)
<b>Mission:</b>	Store chemical munitions, plan for future closure.	<b>IRP Sites (Final RIP/RC):</b>	43 (FY2017)
<b>HRS Score:</b>	N/A	<b>MMRP Sites (Final RIP/RC):</b>	14 (FY2020)
<b>IAG Status:</b>	None	<b>Five-Year Review Status:</b>	A 5-year review is not required for this installation.
<b>Contaminants:</b>	POLs, heavy metals, VOCs, pesticides, explosives, PCBs, UXO, SVOCs, propellants		
<b>Media Affected:</b>	Groundwater, Surface Water, Sediment, Soil		



Pueblo, Colorado

### Progress To Date

In December 1988, the BRAC Commission recommended realignment instead of closure of the Pueblo Depot Activity, primarily because of the future chemical demilitarization mission. Contaminated sites include a landfill, open burning and detonation grounds, ordnance and explosives waste areas, lagoons, former building sites, oil-water separators, a TNT washout facility and discharge system, and hazardous waste storage units. Heavy metals, volatile organic compounds (VOCs), and explosives are the primary contaminants affecting soil and groundwater. In FY94, the installation formed a Restoration Advisory Board (RAB) and a BRAC cleanup team, and the community formed a local redevelopment authority, which prepared a land reuse plan. In October 1996, the Army placed Pueblo Depot Activity under the Chemical and Biological Defense Command (now the Chemical Materials Agency) and changed its name to Pueblo Chemical Depot. In FY96, the installation developed Team Pueblo to coordinate public involvement in restoration, reuse, closure, and cleanup. In FY99, RAB members approved the RAB charter. Prior to FY00, the Army completed a major groundwater treatment system, an explosives-contaminated soil removal, installed carbon filter units on drinking water source wells contaminated with explosives constituents, and investigated off-site contamination in public wells associated with the TNT washout facility and provided drinking water to affected off-site well water users.

The installation has unexploded ordnance (UXO) sites, for which the Army has approved 17 sites to surface and subsurface clearance. The installation initiated a UXO management plan in FY02. In FY03, the Army completed the inventory of closed, transferred, and transferring (CTT) ranges and sites with UXO, discarded military munitions (DMM), or munitions constituents (MC). It identified Military Munitions Response Program (MMRP) sites at the installation. The cleanup progress at Pueblo Chemical Depot for FY03 through FY06 is detailed below.

In FY03, the installation initiated additional investigations and pilot studies at the Southwest Terrace Solid Waste Management Unit (SWMU) 17 and South Central Terrace (SWMUs 14, 28, 36, and 58) to evaluate in situ groundwater treatment technologies for accelerating cleanup and reducing long-term operations. The installation received Colorado's

approval for SWMU 20 no further action (NFA) and completed an interim corrective measure for SWMU 36. The installation completed modifications to the groundwater treatment system at SWMU 17. The Army completed the inventory of CTT ranges and sites with UXO, DMM, or MC. It identified MMRP sites at the installation and approved three other sites for NFA for UXO clearance.

In FY04, the installation maintained compliance for the groundwater treatment system at SWMU 14. The Army constructed an air-sparging system at SWMU 14 to enhance the soil vapor extraction system, and initiated in situ groundwater treatment pilot studies at SWMUs 28, 36, and 58. The installation submitted NFA petitions for SWMUs 53, 54, and 55, which were not approved due to environmental covenant requirements. The installation initiated a corrective action, which involved the installation of additional extraction and injection wells, and conducted a Phase II pilot study for in situ groundwater treatment for SWMU 17. The Army identified a new groundwater flow channel that bypasses the current groundwater treatment system at SWMU 17. Treatment of domestic wells in off-installation areas continued successfully.

In FY05, the installation completed in situ groundwater treatment pilot studies at SWMUs 28, 36, and 58. The installation completed the corrective measures study (CMS) for all four South Central Terrace Area SWMUs (14, 28, 36, and 58) and submitted it to the State for review. Three in situ pilot studies for the SWMU 17 groundwater plume were completed. The Army received state NFA approval at two sites. The installation coordinated with the State to optimize long-term groundwater monitoring requirements resulting in lower cost with continued assurance that potential groundwater releases from SWMUs can be identified. Under the MMRP, the installation completed the draft conceptual site model (CSM) for SWMU 34 and submitted it for regulatory review.

In FY06, Pueblo Chemical Depot received state approval on the South Central Terrace Area CMS (SWMUs 14, 28, 36, and 58). Partnerships between the State of Colorado and installation personnel expedited resolution on environmental covenants to allow remedy selection for these sites. The installation completed the draft CMS for the former TNT Washout Facility and SWMU 18, and requested NFA approval on SWMU 18 from the State. Regulators approved RCRA facility

investigations at SWMUs 19 and 41. Regulators also approved NFA for SWMUs 42, 48, and 59. Additionally, the installation bypassed ion-exchange treatment at the most highly contaminated boundary treatment area in South West Terrace using innovative technology that will result in significant cost savings each year. A fixed-price contract was awarded for the Southern Industrial Area that resulted in additional cost savings and allowed expedited investigation activities.

### FY07 IRP Progress

Pueblo Chemical Depot submitted and received state approval for the final CMS for SWMU 17. The installation completed investigations at SWMUs 25, 29, 35, 39, 45, 56, and 57.

### FY07 MMRP Progress

The installation submitted the draft CSM for SWMU 34 to the State for approval.

### Plan of Action

Plan of action items for Pueblo Chemical Depot are grouped below according to program category.

#### IRP

- Receive regulator approval on NFA for SWMUs 21, 49, and 50 in FY08.
- Initiate performance based contract to implement CMS remedies for SWMUs 14, 17, 28, 36, and 58 in FY08.
- Select remedies SWMU 17 based on the approved CMS in FY08.

#### MMRP

- Receive regulator approval on CSM for SWMU 34 in FY08.

**FFID:** WA017002341800 and WA017002342600  
**Size:** 1,392 acres  
**Mission:** Provide logistical support for assigned ships and service craft; perform authorized work in construction, overhaul, and other tasks; provide housing for active duty families and healthcare for eligible personnel  
**HRS Score:** 50.00; placed on NPL in May 1994  
**IAG Status:** IAG signed for Bremerton Naval Complex in 1998; IAG signed for Jackson Park Housing Complex in 2004

**Contaminants:** Heavy metals, VOCs, POLs, grit, paints, solvents, construction debris, acids, silver nitrate, ordnance compounds, munition items, SVOCs, explosives, propellants  
**Media Affected:** Groundwater, Surface Water, Sediment, Soil  
**Funding to Date:** \$ 184.1 million  
**Est. CTC (Comp Year):** \$ 79.7 million (FY 2036)  
**IRP Sites (Final RIP/RC):** 35 (FY2014)  
**MMRP Sites (Final RIP/RC):** 2 (FY2014)  
**Five-Year Review Status:** Completed and planned



Kitsap County, Washington

**Progress To Date**

Naval Facilities Engineering Command Northwest manages all Installation Restoration Program (IRP) and Military Munitions Response Program (MMRP) activities at Bremerton Naval Complex (BNC) and Jackson Park Housing Complex (JPHC). Most of BNC, which includes the Puget Sound Naval Shipyard, is built on contaminated fill material. Metals and petroleum/oil/lubricants (POLs) are the primary contaminants. Initial assessment studies identified six sites for BNC and eight at JPHC. The main sources of contamination are past operations, such as cleaning and demilitarization of ordnance, and ship construction, maintenance, and demolition. JPHC and BNC formed technical review committees in FY91 and FY92, respectively. Both were converted to Restoration Advisory Boards in FY94. Both installations were placed on the NPL in May 1994. An interagency agreement (IAG) was signed for BNC in 1998, and another was signed for JPHC in FY05. A 5-year review was completed for BNC in FY02 and FY07, and for JPHC in FY05.

IRP sites have been identified at these installations. BNC completed Records of Decision (RODs) for Operable Unit (OU) A, OU BM (Marine), OU BT (Terrestrial), OU D, and OU Naval Supply Center (NSC). JPHC completed a ROD for OU 1. Puget Sound Naval Shipyard transferred approximately two acres of BNC OU D property to the City of Bremerton. In FY02, the Navy completed an inventory of MMRP sites. The cleanup progress at Puget Sound Naval Shipyard for FY03 through FY06 is detailed below.

In FY03, BNC completed negotiations with regulatory and resources agencies for the OU BM remedial action operation (RA-O) monitoring plan. The installation initiated biological and sediment monitoring. The OU BM response action characterization requirements were negotiated and characterization of impacted sediment was completed. The installation also completed remedy selection, and completed the draft final ROD for OU BT and the remedial design for OU BT remedial construction. The installation initiated removal actions and a long-term management (LTM) plan for OU BT. The installation completed a focused remedial investigation/feasibility study (RI/FS) and capping removal action for OU D. The installation continued monitoring and a remedy inspection at OUs A, C, and NSC, and initiated remedy

maintenance at OU A. At JPHC, the installation continued ROD-required LTM at OU 1. The draft No Further Action proposed plan (PP) for OU 2 was submitted to regulators. The OU 3M preliminary assessment and site inspection (PA/SI) was completed. The installation completed OU 3T JPHC PA/SI, munition hazard assessment, sited temporary storage munition magazines, and initiated the OU 3T RI. The installation completed approximately 30 percent of the Phase I fieldwork.

In FY04, BNC completed the OU D focused RI/FS and capping removal action, the OU BT ROD and construction of the pavement cap and shoreline stabilization remedy components. The installation also finalized the OU BT monitoring plan and well installation, and issued an explanation of significant differences and completed OU BM response action. The installation also conducted ROD-required monitoring for all applicable BNC OUs and JPHC OU 1. The installation continued discussions with the regulators regarding the JPHC OU 2 PP, and completed OU 3T Phase I RI fieldwork. The installation completed side scan sonar and bathymetric survey for JPHC OU 3M.

In FY05, Puget Sound Naval Shipyard continued LTM at BNC OUs A, C, and NSC. The installation also completed the final component of the shoreline erosion control system and vegetated cap at BNC OU BT. BNC conducted RA-O sampling at the OU BM. The Navy signed a ROD for OU D and began implementing the remedy. JPHC continued LTM and conducted an additional investigation to address benzene seep for OU 1. JPHC identified free product in new deep wells. JPHC completed geophysical data interpretation and a field summary report at Site OU 3T for RI Phase I. The Navy completed draft RI/FS work plans for Site OU 3M.

In FY06, Puget Sound Naval Shipyard transferred approximately two acres of BNC OU D property to the City of Bremerton. In addition, the installation initiated partnering and facilitated meetings with regulators for JPHC sites. The Navy continued LTM and initiated pilot testing to address benzene seep free product at JPHC OU 1, as well as continued sampling, operation, and maintenance for BNC LTM.

**FY07 IRP Progress**

Puget Sound Naval Shipyard resolved the JPHC OU 2 informal dispute and conducted a supplemental RI. The installation updated the LTM program for OU A and NSC. The installation finalized the action plan for OU C. The Navy continued LTM and initiated a focused FS at JPHC OU 1, and continued finalizing the 2007 Marine Monitoring Report for OU BM. The Navy completed RA-O monitoring for OU BM and evaluated the sediment natural recovery trend. The installation completed the second 5-Year Review for BNC.

**FY07 MMRP Progress**

Puget Sound Naval Shipyard completed the JPHC OU 3T Phase II RI/FS work plans and RI/FS fieldwork. The Navy and EPA resolved a formal dispute regarding JPHC OU 3T Phase II sampling. The installation completed the Phase I work plans for OU 3M.

**Plan of Action**

Plan of action items for Puget Sound Naval Shipyard are grouped below according to program category.

**IRP**

- Resolve formal dispute, and finalize 2007 Marine Monitoring Report for OU BM in FY08.
- Conduct supplemental RI for JPHC OU 2 in FY08.
- Continue LTM at JPHC OU 1, conduct focused FS, and complete documentation for a non-time-critical removal action (NTCRA) at JPHC OU1 in FY08.
- Continue LTM at BNC Terrestrial sites, and conduct a TCRA at OU A in FY08-FY09.

**MMRP**

- Complete JPHC OU 3T Phase II RI/FS fieldwork and report in FY08-FY09.
- Draft JPHC OU 3T PP in FY08-FY09.
- Resolve OU 3 Marine Phase II work plan informal dispute in FY08-FY09.
- Initiate OU 3M Phase II field work in FY08-FY09.

<b>FFID:</b>	TX621382073800	<b>Contaminants:</b>	Trichloroethylene, 1,1,1-trichloroethane, cadmium, chromium, lead, zinc, perchlorate, vinyl chloride, dichloroethane, dichloroethene, VOCs, SVOCs, metals
<b>Size:</b>	18,316 acres	<b>Media Affected:</b>	Groundwater, Surface Water, Sediment, Soil
<b>Mission:</b>	Conduct (Light) Ground Combat and Tactical Systems Sustainment Maintenance Operations; Air Defense Systems Certification; Equipment Support Services; Munitions Storage, Renovation, and Demilitarization; Defense Logistic Support; and other missions.	<b>Funding to Date:</b>	\$ 45.6 million
<b>HRS Score:</b>	N/A	<b>Est. CTC (Comp Year):</b>	\$ 50.1 million (FY 2015)
<b>IAG Status:</b>	None	<b>IRP Sites (Final RIP/RC):</b>	76 (FY2009)
		<b>MMRP Sites (Final RIP/RC):</b>	10 (FY2014)
		<b>Five-Year Review Status:</b>	A 5-year review is not required for this installation.



Texarkana, Texas

**Progress To Date**

In 1995, the BRAC Commission realigned Red River Army Depot (AD) by moving the M113 vehicle mission to other depots. In 2005, the BRAC Commission realigned Red River AD to close the munitions center and move the missile facilities. The installation retained its Bradley Fighting Vehicle, intern training, Patriot Missile, and rubber production missions. Areas of environmental concern at the depot include spill sites associated with previous industrial and pre-RCRA disposal activities. Trichloroethylene (TCE) is the main contaminant affecting groundwater at the installation. In FY95, the installation formed a BRAC cleanup team, and the community formed the Red River Redevelopment Authority (RRRA). In FY96, the installation formed a Restoration Advisory Board and prepared a BRAC cleanup plan (BCP). The BCP was updated in FY01. The installation maintains a partnership with the Texas Natural Resource Conservation Commission (now known as the Texas Commission on Environmental Quality) through the Defense and State Memorandum of Agreement program.

To date, the installation removed more than 2,000 cubic yards of contaminated sediment from the north and south stormwater drainage ditches in the Western Industrial Area (WIA). The Army transferred 694 acres of the 797 acres of BRAC property to the RRRA. The Army completed an inventory of closed, transferred, and transferring ranges and sites with unexploded ordnance, discarded military munitions, or munitions constituents in FY02. The inventory identified five Military Munitions Response Program (MMRP) sites at the non-BRAC, active portion of this installation. The cleanup progress at Red River AD for FY03 through FY06 is detailed below.

In FY03, the installation completed the groundwater modeling study in the WIA and submitted the study to the regulators. The Army repaired the chrome and storm sewers by relining with cured-in-place-piping. The installation completed the Hays Plant Affected Property Assessment Report (APAR). The Army awarded a contract for the removal of the chrome beds at the industrial waste treatment plant. The installation expanded sampling at the X 1 Sewer Treatment Plant. The Army presented its proposal to conduct a pilot study of dual phase extraction to determine the potential for removal of TCE from contaminated soils and groundwater. The analysis of the groundwater modeling projected a negligible environmental

impact from groundwater discharge to Panther Creek. The installation initiated an MMRP site inspection (SI) in the active portion of the installation.

In FY04, the installation completed a pilot study demonstrating that treating the TCE contaminated groundwater was not feasible using available technology. The Army removed contaminated soil from the former pesticide pit, the former Hays Sewer Treatment Plant, and the chrome drying beds. It submitted the APAR and response action completion report for these sites. The Army installed four monitoring wells off-site to determine the degree of contaminant migration from the installation. Three of the wells were non-detect for TCE and one well had detections of TCE below the action level. The installation took additional soil, groundwater, surface water and sediment samples to define the extent of contamination at the X 1 Sewer Treatment Plant. The installation completed a finding of suitability to transfer (FOST) approximately 14 acres. The Army submitted release investigation reports for the former diesel transfer station at Building 172 and the Industrial Waste Treatment Plant. The Army added two MMRP sites to the inventory.

In FY05, the installation completed a soil remediation project at the former Incinerator Building 722. The Army submitted a corrective measures implementation plan to the State for the closed hazardous waste landfill. The installation completed a draft SI and historical record review reports for MMRP sites.

In FY06, the Army completed APARs for Buildings 371 and 373, used oil tanks, and the X 1 Sewer Treatment Plant. Red River AD completed response action plans for Buildings 371, 373, 1027, the used oil tank facility, and the X 1 Sewer Treatment Plant. The installation implemented the groundwater monitoring plan for the closed ordnance training center hazardous waste landfill. The installation also completed two FOST documents, totaling 38 acres for future transfer of this property to the RRRA. Red River AD submitted the SI report and received regulator comments.

**FY07 IRP Progress**

Red River AD constructed two permeable reactive barrier walls to protect Panther Creek from solvent contaminated groundwater. Red River AD completed the environmental

condition of property (ECP) and CERFA reports for the BRAC 2005 parcel. The Army submitted long-term groundwater monitoring plans for Buildings 371, 373, the WIA, and the used oil tank facility; and completed remedial excavations at Building 1027, the used oil tank facility, and the X 1 Sewer Treatment Plant. The installation submitted a remedial action plan for the WIA and Panther Creek. The Army also submitted an APAR for the WIA. The installation completed RCRA facility assessments for areas of concern identified in the ECP report for BRAC 2005 excess property. The cost of completing environmental restoration has changed significantly due to changes in estimating criteria.

**FY07 MMRP Progress**

The installation received state comments that seven MMRP sites will require RCRA Facility investigations. The Army transferred the Northwest and Southwest Surveillance Function Test Ranges to the BRAC 2005 program.

Funding issues delayed initiation of the RCRA investigations.

Red River AD published a public notice on the Munitions Site Prioritization Protocol scoring; there was no public response.

**Plan of Action**

Plan of action items for Red River Army Depot are grouped below according to program category.

**IRP**

- Receive state concurrence on plume management zones for WIA, Buildings 433, 373, 371, and used oil tank facility in FY08.
- Receive state concurrence for end of post-closure care at permit #1313 municipal solid waste landfill in FY08.
- Begin Phase II investigations on BRAC 2005 sites in FY08.
- Complete groundwater classification at X 1 Sewer Treatment Plant in FY08.

**MMRP**

- Initiate RCRA Facility Investigations at five MMRP sites in FY09.

<b>FFID:</b>	AL421382074200	<b>Media Affected:</b>	Groundwater, Surface Water, Sediment, Soil
<b>Size:</b>	38,300 acres	<b>Funding to Date:</b>	\$ 157.7 million
<b>Mission:</b>	Serve as host to the Army Aviation and Missile Command, the Space and Missile Defense Command, Redstone Technical Test Center, and the Missile and Space Intelligence Center	<b>Est. CTC (Comp Year):</b>	\$ 283.0 million (FY 2044)
<b>HRS Score:</b>	33.40; placed on NPL in June 1994	<b>IRP Sites (Final RIP/RC):</b>	244 (FY2014)
<b>IAG Status:</b>	FFA under negotiation	<b>MMRP Sites (Final RIP/RC):</b>	25 (FY2018)
<b>Contaminants:</b>	Heavy metals, solvents, MEC, perchlorate, CWM, pesticides, VOCs, SVOCs, explosives, propellants	<b>Five-Year Review Status:</b>	Planned



Huntsville, Alabama

## Progress To Date

Past operations at the Redstone Arsenal (RSA) have included production, receipt and shipment, storage, demilitarization, and disposal of chemical and high-explosive munitions. Industrial firms also produced commercial chemicals and pesticides at the installation. RSA currently conducts military training, research and development; manages procurement; and supports the Army's aviation and missile weapons systems. EPA placed the installation on the NPL in June 1994. In 2005, the BRAC Commission recommended RSA for realignment. Site types include past disposal sites, landfills, open burning and open detonation areas, chemical munitions disposal sites, and releases from rocket motor production processes. Primary contaminants of concern are heavy metals, solvents, chemical weapon materials, munitions and explosives of concern, and pesticides. RSA has a technical review committee, but repeated surveys of community interest in forming a Restoration Advisory Board have drawn little interest.

Studies beginning in FY77 identified Installation Restoration Program (IRP) and MMRP sites at RSA. The Army conducted an inventory of closed, transferred, and transferring (CTT) ranges and sites with unexploded ordnance, discarded military munitions, or munitions constituents that identified Military Munitions Response Program (MMRP) sites. There are additional sites at Marshall Space Flight Center (MSFC) under the responsibility of NASA. In FY02, the Army separated RSA into groundwater operable units (OUs) and surface media OUs. The installation has achieved clean closure for 14 sites and completed 7 interim Records of Decision (RODs) and 5 RODs. Cleanup progress at RSA for FY03 through FY06 is detailed below.

In FY03, the installation prepared remedial investigation and feasibility study (RI/FS) reports for two sites and a draft proposed plan (PP) for RSA 099. The installation transferred five IRP sites to the Army environmental compliance program for ongoing activities. The Army conducted a program review and initiated a re-prioritization effort. The installation completed an archive search report and initiated an in-depth evaluation of the information and visual site inspections (SIs). The installation completed the treatability studies work plan for groundwater site RSA 146 and began the fieldwork.

The Army determined that the initial inventory of active, inactive, and CTT ranges were incorrect.

In FY04, the installation completed one RI/FS for RSA 099 and one corrective action plan (the RCRA equivalent of an RI/FS) for RSA 143. The installation developed the surface water and sediment background dataset and submitted it for regulatory review. The Army completed the ROD for RSA 099. The Army initiated limited site assessments at new potential source areas sites. The Army continued updating the active, inactive, and CTT range inventory for RSA.

In FY05, the Army awarded a performance-based contract for the installation. The installation submitted RI reports for RSA 011, 057, 096, 098, 146, and 183. Additionally, the installation submitted an FS report for RSA 057. The Army submitted the preliminary assessment (PA) and SI reports for RSA 145, 146, 147, 148, and 149. The installation corrected the MMRP inventory which includes four sites.

In FY06, the Army grouped the 126 active IRP sites into 17 major groupings. These groupings were used to prioritize the efforts at RSA to meet a goal of having all remedies in place by 2014. The installation completed a no further action agreement for MSFC 074. The Army completed a PP for RSA 057 and submitted the ROD. Significant movement occurred in the federal facility agreement (FFA) negotiations, as EPA, the State of Alabama, and the Army tentatively agreed on language that would resolve the outstanding issues and allow FFA signature. The installation completed PAs for RSA 150, 151, 152, 153, 154, 155, and 157. The installation also submitted RI reports for RSA 087, 088, 094, 122, and MSFC 002/087. Additionally, RSA submitted the FS report for RSA 049 and a draft PP for RSA 011. The installation initiated the installationwide MMRP SI.

## FY07 IRP Progress

The installation completed the identification of 18 groupings as OUs, replacing the previously established surface media OU boundaries. EPA and the Alabama Department of Environmental Management (ADEM) added additional personnel to the RSA program. Smaller teams consisting of EPA, ADEM, and installation personnel were established to conduct cleanup at individual sites. The new organization vastly improved communications efficiency for the RSA IRP. The

installation completed RODs for RSA 011, 047, 049, 057, and a groundwater interim ROD, two of which were for no action (RSA 011 and 047). The Army submitted RI reports for RSA 053, 058, and 097. The installation clean-closed three other sites with Administrative Letters (RSA 223, 232, and 235). The Army accomplished remedies in place for two sites (MSFC 002/087, RSA 229), finalized RI reports for five sites (RSA 054, 056, 122, 139, and 183), and initiated RI reports for 15 sites. The installation installed a northern perimeter well network to help address contamination coming on post via groundwater from off-post sources. The Army initiated a time critical removal action (TCRA) to support mission needs at RSA 252.

Technical issues delayed submission of RIs at RSA 060, 095, and 142. Regulatory issues delayed the FFA.

## FY07 MMRP Progress

The installation updated the historical records review (HRR) and resubmitted it for review. RSA submitted the SI workplan for review. The Army initiated a TCRA to support mission needs at RSA 282.

## Plan of Action

Plan of action items for Redstone Arsenal are grouped below according to program category.

### IRP

- Complete FFA negotiations in FY08.
- Complete RODs for MSFC 002/087 and RSA 094 in FY08.
- Complete RI/FSs for RSA 048, 054, 122, and 183 in FY08.
- Award new performance-based contract in FY08.
- Finalize RI reports for RSA 053, 058, 060, 095, 097, and 142 in FY08.

### MMRP

- Complete HRR and SI in FY08.
- Complete TCRA at RSA 282 in FY08-FY09.

<b>FFID:</b>	TX657152409100	<b>Est. CTC (Comp Year):</b>	\$ 11.2 million (FY 2036)
<b>Size:</b>	2,987 acres	<b>IRP Sites (Final RIP/RC):</b>	18 (FY2006)
<b>Mission:</b>	Conducted pilot training	<b>MMRP Sites (Final RIP/RC):</b>	3 (FY2000)
<b>HRS Score:</b>	N/A	<b>Five-Year Review Status:</b>	Completed and planned
<b>IAG Status:</b>	FFA signed in 1987 and terminated in June 1999		
<b>Contaminants:</b>	VOCs, POLs, metals, pesticides, herbicides, TCE, SVOCs		
<b>Media Affected:</b>	Groundwater, Surface Water, Soil		
<b>Funding to Date:</b>	\$ 122.0 million		



Lubbock, Texas

**Progress To Date**

In July 1995, the BRAC Commission recommended closure of Reese Air Force Base (AFB), which was used for pilot training and related activities. The installation closed in September 1997. A federal facility agreement (FFA) was signed in 1987 and terminated in June 1999. Sites identified at the installation include landfills, surface impoundments, underground storage tanks, sludge spreading areas, industrial drain lines, and fire training areas. The installation formed a Restoration Advisory Board (RAB) in FY95 and a BRAC cleanup team (BCT) in FY96. An Environmental Baseline Survey was completed in FY97. The installation achieved the last remedy in place (LRIP) milestone and completed the first 5-year review in FY06.

Environmental studies have identified Installation Restoration Program (IRP) and Military Munitions Response Program (MMRP) sites at Reese AFB. All property (2,987 acres) at Reese AFB has been transferred. In FY04, the Air Force conducted an inventory of MMRP sites. The cleanup progress at Reese AFB for FY03 through FY06 is detailed below.

In FY03, the installation transferred 70 acres.

In FY04, 141 acres were transferred, and EPA approved operating properly and successfully (OP&S) determinations for two sites (SS 001 and LF 003). The Air Force also completed the installation of additional monitoring wells and corrective action wells for the Tower Area plume (SS 002). Groundwater data was collected to support the OP&S determination for the Tower Area plume. A guaranteed fixed-price remediation (GFPR) with insurance contract was issued to complete cleanup at Reese AFB. The Air Force conducted an inventory of MMRP sites. MMRP sites were identified at this installation.

In FY05, the Air Force initiated preparation of the first 5-year review. Pilot studies to test possible enhancement of remedies for the Tower Area and Southwest Landfill plumes were conducted under the GFPR contract. In addition, the Air Force completed the expansion of the Tower Area pump-and-treat system, initiated an OP&S demonstration for a third site, and continued to gather data for an OP&S demonstration for a fourth site. The Air Force continued complying with the EPA 7003 Order by supplying approximately 50 off-base residents with alternate water supplies. The Air Force began evaluating

requirements at the identified MMRP sites. The RAB and BCT continued to meet as scheduled.

In FY06, the OP&S demonstration for the Tower Area Plume was completed. All remaining property (409 acres) at Reese AFB was transferred through an economic development conveyance to the Lubbock Reese Reuse Authority and through a public benefit conveyance to Texas Tech University and South Plains College. The Air Force successfully used the GFPR contract to expedite environmental remediation, advancing the schedule for groundwater cleanup. The LRIP milestone at Reese AFB was achieved, and the first 5-year review was completed. The Air Force continued the ongoing full-scale enhanced remedial action and also continued its compliance with the EPA 7003 Order. The Air Force determined that no munitions and explosives of concern constituents remain at the installation. The RAB and BCT continued to meet as needed.

**FY07 IRP Progress**

Reese AFB continued the GFPR contract, completed full-scale implementation of the enhanced remedial systems, and continued monitoring off-base private water wells in accordance with the EPA 7003 Order. The installation also continued landfill OP&S, as well as groundwater monitoring and corrective action.

**FY07 MMRP Progress**

Reese AFB completed requirements to close the identified MMRP sites.

**Plan of Action**

Plan of action items for Reese Air Force Base are grouped below according to program category.

**IRP**

- Award follow-on monitoring performance-based contract in FY08.
- Continue enhanced remedy for groundwater in FY08-FY09.
- Continue monitoring of private water wells in compliance with the EPA 7003 Order in FY08-FY09.

**MMRP**

There are no MMRP actions scheduled for FY08 or FY09.

<b>FFID:</b>	MO757002429200	<b>Funding to Date:</b>	\$ 11.3 million
<b>Size:</b>	429 acres	<b>Est. CTC (Comp Year):</b>	\$ 2.7 million (FY 2037)
<b>Mission:</b>	Supported fighter and attack aircraft operations	<b>IRP Sites (Final RIP/RC):</b>	12 (FY2004)
<b>HRS Score:</b>	N/A	<b>MMRP Sites (Final RIP/RC):</b>	None
<b>IAG Status:</b>	None	<b>Five-Year Review Status:</b>	Completed and planned
<b>Contaminants:</b>	POLs, PAHs, PCBs, VOCs, heavy metals, SVOCs, explosives, propellants		
<b>Media Affected:</b>	Groundwater, Surface Water, Sediment, Soil		



Kansas City, Missouri

**Progress To Date**

In July 1991, the BRAC Commission recommended closure of Richards-Gebaur Air Reserve Station (ARS), which supported various aircraft operations throughout its history. The installation was closed on September 30, 1994. Site types identified at the installation include a fire training area, vehicle maintenance areas, hazardous waste drum storage areas, fuel storage areas, and underground storage tanks (USTs). An Environmental Baseline Survey was completed in FY94. The installation formed a Restoration Advisory Board (RAB) in 1994, which adjourned in FY04. The community relations plan (CRP) was updated in FY04 to indicate the status of remediation efforts and identify ongoing opportunities for community involvement. The Air Force completed a 5-year review in FY07.

Environmental studies at Richards-Gebaur ARS have identified Installation Restoration Program (IRP) and Military Munitions Restoration Program (MMRP) sites. Three sites required no further response action planned (NFRAP) decision documents (DDs), 16 sites required remedial investigations, and 10 sites required closure under Missouri RCRA-C UST regulations. Records of Decision (RODs) were completed for Operable Units (OUs) 1 and 2. All property (429 acres) at the installation has been transferred to the local communities (Kansas City and Belton) or assigned to other DoD Components (Navy/Marine Corps and Army). In FY06, the Air Force transferred environmental responsibility for IRP sites SS 003 and 009 to the Navy/Marine Corps. The cleanup progress at Richards-Gebaur ARS for FY03 through FY06 is detailed below.

In FY03, the draft ROD for OUs 1 and 2 was completed and submitted to regulators. The interim action report for soil and sediment for OU 1, the focused feasibility study (FS) for OU 1, and the FS for OU 2 were completed and received regulatory concurrence. NFRAP DDs were completed for Areas of Concern (AOCs) 001 and 002, and Sites OT 010 and ST 007, which attained residential soil remediation goals. The NFRAP DDs for AOCs 001 and 002 and Site OT 010 were signed. The installation completed a finding of suitability to transfer for Parcels K and L. A proposed plan was completed and presented to the community.

In FY04, the ROD for OUs 1 and 2 was completed and signed. The NFRAP DD for Site ST 007 was signed. The Air Force conducted an inventory of MMRP sites. No MMRP sites were identified at this installation. The CRP was updated to indicate the status of remediation efforts and identify ongoing opportunities for community involvement. The RAB adjourned after the members unanimously agreed that their mission had been completed.

In FY05, the Air Force completed the land use control/institutional control (LUC/IC) management plan and updated the groundwater monitoring plan. Semiannual groundwater monitoring at six sites and annual LUC/IC inspections were conducted. In addition, the Air Force transferred the remainder of installation property (232 acres) to the City of Kansas City and to the Navy/Marine Corps.

In FY06, semiannual groundwater monitoring at six sites and annual LUC/IC inspections were conducted. The Air Force conducted field activities associated with the first 5-year review and prepared a draft 5-year review report. Environmental responsibility for IRP Sites SS 003 and 009 was transferred from the Air Force to the Navy/Marine Corps. The Air Force initiated meetings with the Kansas City Port Authority to evaluate the feasibility of entering into an environmental services cooperative agreement (ESCA) in which the Port Authority would assume responsibility for remaining remedial action operations (RA-O) and long-term management (LTM) requirements.

**FY07 IRP Progress**

The Air Force awarded the annual regional fixed-price contract to continue RA-O/LTM and LUC/IC inspections for environmental sites at the installation. Semiannual groundwater monitoring and annual LUC/IC inspections were conducted for four IRP sites. The Air Force completed and received regulatory concurrence for the first 5-year review, which reduced the groundwater monitoring frequency from semiannual to annual for three of the four sites. The Air Force submitted and received regulatory approval of an explanation of significant differences to change the remedy for two soil sites from LUC/ICs to no further action. The Kansas City Port Authority requested that

the Air Force enter into an ESCA with the Port Authority to take over the remaining cleanup requirements. The Air Force began review of the ESCA.

**FY07 MMRP Progress**

The Air Force has identified no MMRP sites at this installation.

**Plan of Action**

Plan of action items for Richards-Gebaur Air Reserve Station are grouped below according to program category.

**IRP**

- Negotiate and enter into an ESCA with the Kansas City Port Authority to privatize the environmental cleanup at the installation in FY08.
- Award annual contract to continue groundwater monitoring, LUC/IC inspections, and annual report preparation in FY08.
- Conduct annual groundwater monitoring and LUC/IC inspections for four sites in FY08-FY09.

**MMRP**

- There are no MMRP actions scheduled for FY08 or FY09.

<b>FFID:</b>	OH557002454400	<b>Funding to Date:</b>	\$ 25.9 million
<b>Size:</b>	2,076 acres	<b>Est. CTC (Comp Year):</b>	\$ 3.4 million (FY 2037)
<b>Mission:</b>	Supported fighter, tanker, and cargo aircraft operations	<b>IRP Sites (Final RIP/RC):</b>	45 (FY2001)
<b>HRS Score:</b>	50.00; proposed for NPL in January 1994	<b>MMRP Sites (Final RIP/RC):</b>	None
<b>IAG Status:</b>	None	<b>Five-Year Review Status:</b>	Completed and planned
<b>Contaminants:</b>	Pesticides, paints, POLs, solvents, heavy metals, VOCs, SVOCs		
<b>Media Affected:</b>	Groundwater, Surface Water, Sediment, Soil		



Columbus, Ohio

**Progress To Date**

In July 1991, the BRAC Commission recommended closure of Rickenbacker Air National Guard (ANG) Base, which had supported aircraft operations. In July 1993, realignment was recommended rather than base closure. The installation was realigned on September 30, 1994. Rickenbacker ANG Base was proposed for listing on the NPL in January 1994, because of the potential effects of contamination on underlying groundwater. A Restoration Advisory Board formed and a basewide Environmental Baseline Survey was completed in FY94. In FY95, a final environmental impact statement was published. From FY96 through FY97, a supplemental remedial investigation report was completed. Remedial actions (RAs) included removal of 59 underground storage tanks, 28 aboveground storage tanks, and asbestos-containing materials; closure of abandoned fuel lines; and demolition of the heat and water plant lagoons.

To date, all Records of Decision have been signed. The Air Force has transferred over 1,700 acres to the local redevelopment authority (LRA). No further RA planned documents were signed for 16 Installation Restoration Program (IRP) sites and 3 areas of concern. Seven other IRP sites were closed with regulatory concurrence. In FY04, the Air Force conducted an inventory of Military Munitions Response Program (MMRP) sites. The cleanup progress at Rickenbacker ANG Base for FY03 through FY06 is detailed below.

In FY03, the installation transferred 310 acres to the LRA and published the final investigation report for Site 12/597.

In FY04, the installation completed the two-year report for IRP Sites 2, 21, 41, 42, and 43, and finalized the land use control/institutional control (LUC/IC) management plan. After review of groundwater data, the basewide groundwater restriction was removed. The installation shut down the groundwater treatment system at Site 2 and initiated monitored natural attenuation. The two vacuum-enhanced recovery systems at Pumphouses 898/899 and Segment G of the 1942 fuel line were turned off. A remedial process optimization (RPO) study was completed, and the first 5-year review was initiated. The Air Force conducted an inventory of MMRP sites. No MMRP sites were identified on the BRAC portion of this installation.

In FY05, the installation obtained approval letters for operating properly and successfully (OP&S) demonstrations at IRP Sites 21 and 42. A statement of basis (SOB) for no further action was signed for Site 43 contingent upon land use restrictions. The installation transferred 47 acres of Parcel D3A and 15 acres of Parcel D3B containing the petroleum/oil/lubricant (POL) bulk storage area to the LRA. The Air Force awarded a performance-based contract to close the remaining IRP Sites, Sites 1, 2, 21, 41, and 42. The installation also implemented the RPO recommendations identified during the FY04 study. The BRAC cleanup team (BCT) reviewed the draft 5-year review and held one meeting.

In FY06, the Air Force implemented site closure acceleration enhancements at Sites 41 and 42. Approximately 100 cubic yards of contaminated soil were removed from Site 41. The installation added an aqueous solution of food grade vegetable oil and simple sugars to the groundwater to act as a long-term electron donor and to accelerate site closure at Sites 41 and 42. The installation expanded the air sparge system at Site 2. The installation submitted the Site 2 demonstration of an RA OP&S document to EPA Region V and received approval. The Air Force completed transfer of Site 43 (Parcels B1/D3E and Parcels D3B, D3C, D3F, D3G, and D3K) to the LRA. The Air Force decided to retain Parcels D3I, D3J, and D3L for use by the Ohio ANG. The BCT met twice.

**FY07 IRP Progress**

The Air Force obtained signed SOBs for the optimization of the groundwater sampling at Sites 41 and 42. The installation submitted the Site 1 demonstration of OP&S document to EPA Region V and received concurrence. Regulators approved a minor amendment to the Site 1 post closure plan, including LUCs for the site. An updated LUC/IC map was finalized, and obsolete monitoring wells were decommissioned. The Air Force transferred Parcels D3D and D3H to the LRA. The installation finalized the first 5-year review.

The BCT met twice.

**FY07 MMRP Progress**

The Air Force has identified no MMRP sites at this installation.

**Plan of Action**

Plan of action items for Rickenbacker Air National Guard Base are grouped below according to program category.

**IRP**

- Complete site closure actions at Site 2 in FY08.
- Obtain signatures for 5-year review in FY08.
- Decommission remaining obsolete monitoring wells in FY08-FY09.
- Continue groundwater monitoring at Sites 1, 21, 41, and 42 in FY08-FY09.

**MMRP**

There are no MMRP actions scheduled for FY08 or FY09.

<b>FFID:</b>	CA921382075900	<b>Est. CTC (Comp Year):</b>	\$ 2.3 million (FY 2009)
<b>Size:</b>	172 acres	<b>IRP Sites (Final RIP/RC):</b>	12 (FY1998)
<b>Mission:</b>	Manufacture grenades, projectiles, and steel cartridge casings	<b>MMRP Sites (Final RIP/RC):</b>	1 (FY2008)
<b>HRS Score:</b>	63.94; placed on NPL in February 1990	<b>Five-Year Review Status:</b>	Completed and planned
<b>IAG Status:</b>	IAG signed in April 1990		
<b>Contaminants:</b>	Chromium, cyanide, zinc		
<b>Media Affected:</b>	Groundwater and Soil		
<b>Funding to Date:</b>	\$ 56.1 million		



Riverbank, California

**Progress To Date**

In 1942, the Army constructed what is now the Riverbank Army Ammunition Plant (AAP) as an aluminum reduction plant to supply military requirements. EPA placed the installation on the NPL in February 1990. In 2005, the BRAC Commission recommended Riverbank AAP for closure. Since 1951, the installation has manufactured brass and steel cartridge cases for the Army and the Navy. Other manufactured products include grenades and projectiles, which the Army ships to other ammunition plants for loading operations. In FY85, a preliminary assessment and site inspection identified the following sites: an industrial wastewater treatment plant, an abandoned landfill, and four evaporation and percolation (E/P) ponds located north of the plant near the Stanislaus River. The Army and EPA signed an interagency agreement (IAG) in April 1990. In FY92, the Army extended the Riverbank City water system and connected service to all residents potentially affected by chromium contamination. The installation formed a technical review committee in 1994. In FY97, the Army submitted a petition to delete the installation from the NPL; however, EPA determined that NPL deletion was premature since groundwater cleanup goals had not been met. EPA approved the preliminary closeout report and the remedial action completion report. The Army completed 5-year reviews in FY01 and FY06.

To date, the installation has completed one installationwide Record of Decision. In FY03, the Army completed an inventory of Military Munitions Response Program (MMRP) sites. The cleanup progress at Riverbank AAP for FY03 through FY06 is detailed below.

In FY03, the installation continued to work towards implementing a pilot test for in situ treatment of the chromium-contaminated soil in the source area, including negotiations with the California Regional Water Quality Control Board (RWQCB) regarding the need for an additional waste discharge permit for this pilot test. Work continued on an evaluation of background groundwater and surface water conditions at the E/P ponds. The installation shut down the fluidized bed reactor because it was no longer needed. Work began on the bench-scale test for cyanide source destruction.

The Army completed the inventory of closed, transferred, and transferring ranges and sites and identified one site, a closed small arms range.

In FY04, the installation converted Monitoring Well 109B to an extraction well and put it into service. Studies of the well's performance showed that it improved the efficiency of the groundwater containment system and reduced the amount of pumping required to provide full capture, resulting in lower costs. The Army obtained the permit from the RWQCB for the in situ chromium treatment pilot project and initiated testing in the primary source area. The Army completed the bench-scale component of the in situ cyanide destruction pilot test and initiated discussions with RWQCB regarding regulatory requirements for implementing a field test. The Army issued a performance-based contract to accelerate completion of the groundwater cleanup. Work continued on evaluating background groundwater and surface water conditions at the E/P ponds as part of the effort to get a permanent increase in the allowable nitrate discharge limit.

In FY05, Riverbank AAP was identified for closure as part of BRAC 2005. Riverbank AAP initiated optimization efforts for the extraction scenario from off-site wells. The installation completed the in situ chromium treatment pilot test in the primary source area. Under the MMRP, the installation awarded a contract to conduct a historical review and archive search for the small-arms range.

In FY06, Riverbank AAP continued to optimize the current groundwater treatment system and completed the second 5-year review. The Army initiated groundwater investigative activities necessary for evaluation of potential treatment alternatives to potentially expedite cleanup efforts. As part of the environmental evaluation component of BRAC 2005, the Army completed the draft final environmental condition of property (ECP) report. The Army conducted a historical records review and archive search for the small arms range.

**FY07 IRP Progress**

Riverbank AAP completed the Final Phase I ECP report and obtained EPA concurrence on CERFA Category 1 acres. The Army completed field efforts in support of ECP Phase II, and results were provided in a draft site inspection (SI) report. Regulators approved workplans for the 1-year shut down of the groundwater pump-and-treat system (rebound study) and workplans for pilot test of in situ ferrous iron. The installation shut down the treatment system.

**FY07 MMRP Progress**

The installation conducted a visual inspection, metal detection survey, and collected soil samples.

**Plan of Action**

Plan of action items for Riverbank Army Ammunition Plant are grouped below according to program category.

**IRP**

- Complete 1-year rebound and in situ pilot study in FY08.
- Complete evaluation report for rebound and in situ pilot study in FY08.
- Determine future course of action to address groundwater contamination based on results of rebound study and in situ pilot studies in FY08.
- Complete ECP Phase II SI document in support of BRAC 05 in FY08.

**MMRP**

- Provide regulators with results of visual site inspection, metal survey, and soil sampling in a SI report in FY08.

<b>FFID:</b>	GA457172433000	<b>Funding to Date:</b>	\$ 171.3 million
<b>Size:</b>	8,855 acres	<b>Est. CTC (Comp Year):</b>	\$ 124.8 million (FY 2028)
<b>Mission:</b>	Provide logistics support for aircraft	<b>IRP Sites (Final RIP/RC):</b>	43 (FY2005)
<b>HRS Score:</b>	51.66; placed on NPL in July 1987	<b>MMRP Sites (Final RIP/RC):</b>	None
<b>IAG Status:</b>	FFA signed in June 1989	<b>Five-Year Review Status:</b>	Completed and planned
<b>Contaminants:</b>	VOCs, paint strippers and thinners, paints, solvents, phosphoric and chromic acids, cyanide, carbon, oils, TCE		
<b>Media Affected:</b>	Groundwater, Surface Water, Sediment, Soil		



Houston County, Georgia

## Progress To Date

The mission of Robins Air Force Base (AFB) is to provide logistics support for aircraft. The installation was placed on the NPL in July 1987 and the Air Force signed a federal facility agreement (FFA) in June 1989. In 2005, the BRAC Commission recommended Robins AFB for realignment. Primary contaminants at the site include trichloroethylene (TCE) and tetrachloroethane (PCE) in soil and groundwater. The installation has formed a Restoration Advisory Board (RAB). Robins AFB completed 5-year reviews in FY01 and FY06.

The Robins AFB NPL site designation consists of Landfill (LF) 004 and an adjacent sludge lagoon (Site WP 14), and is divided into three operable units (OUs): source control (OU 1), wetlands (OU 2), and groundwater (OU 3). In FY04, an interim Record of Decision (ROD) was signed for OU 2 and the final ROD for OUs 1 and 3 was signed. The cleanup progress at Robins AFB for FY03 through FY06 is detailed below.

In FY03, the installation completed the proposed plan and remedial design for OU 2. In August 2003, OU 2 was determined not to be associated with the contaminants from the OU 1 source areas and was removed from the NPL site designation. A final ROD was not required because the remediation would be completed under RCRA authority. The installation completed the corrective action plan (CAP) for SS 040 and installed remedial actions (RAs) for OT 020 and SS 040. A 5-year performance-based contract was awarded to perform the CAP for DC 34 and remediate the site until no further action is necessary. Operations and maintenance (O&M) activities continued at 12 environmental restoration sites.

In FY04, the installation completed the RA for OT 023 and began the RA for OU 2 at LF 004. The installation also completed the ROD for OUs 1 and 3 at LF 004. In addition, Robins AFB began the installation of the RA at DC 034. The draft CAP for DC 034 was prepared and submitted for regulatory review. The installation completed RAs at OT 029 and SS 042 and the sites achieved response complete (RC) status. Area of Concern 15 and RW 015 also achieved RC status. O&M activities continued at nine environmental restoration sites. The Robins AFB RAB, made up of 17

community participants, regulators, and installation members, met quarterly to discuss ongoing restoration activities.

In FY05, Robins AFB completed the CAP and the installation of the RA for DC 34. The Air Force completed the RA for OU 2 and the RA for SS 039. Robins AFB obtained site closure for SS 042 and conducted O&M activities at nine sites. The installation has obtained remedy in place (RIP) for all Installation Restoration Program (IRP) sites at the installation. The Air Force updated its Military Munitions Response program (MMRP) inventory. No MMRP sites were identified at this installation during the inventory development. The RAB met quarterly to discuss ongoing restoration activities.

In FY06, Robins AFB obtained site closure at SS 039 and completed the second 5-year review of the OU 1 and OU 3 remedies. The installation conducted O&M activities at eight sites and maintained land use controls (LUCs) at four sites. The Air Force awarded Robins AFB the Thomas D. White Restoration award for environmental achievements. The RAB met quarterly to discuss ongoing restoration activities.

## FY07 IRP Progress

Robins AFB obtained site closure at OT 029. The installation conducted O&M activities at eight sites and maintained LUCs at four sites. Remedial Process Optimization efforts were performed at each O&M site.

The RAB met quarterly to discuss ongoing restoration activities.

## FY07 MMRP Progress

The Air Force initiated a preliminary assessment (PA) at this installation.

## Plan of Action

Plan of action items for Robins Air Force Base are grouped below according to program category.

### IRP

- Perform O&M activities at eight sites in FY08.
- Maintain LUCs at four sites in FY08.
- Complete O&M activities at DC 34 in FY09.

### MMRP

- Complete PA in FY08.

<b>FFID:</b>	CO821382076900	<b>Funding to Date:</b>	\$ 1,564.8 million
<b>Size:</b>	17,228 acres	<b>Est. CTC (Comp Year):</b>	\$ 349.0 million (FY 2037)
<b>Mission:</b>	Manufactured and stored chemical munitions	<b>IRP Sites (Final RIP/RC):</b>	213 (FY2011)
<b>HRS Score:</b>	58.15; placed on NPL in July 1987	<b>MMRP Sites (Final RIP/RC):</b>	None
<b>IAG Status:</b>	IAG and FFA signed in FY89	<b>Five-Year Review Status:</b>	Completed and underway
<b>Contaminants:</b>	Pesticides, chemical agents, VOCs, chlorinated organics, PCBs, UXO, heavy metals, solvents, SVOCs		
<b>Media Affected:</b>	Soil and Groundwater		



Adams County, Colorado

## Progress To Date

Rocky Mountain Arsenal (RMA) operated as a chemical munitions production facility from 1942 until 1982. It has been the focus of an aggressive cleanup program since the 1980s. Contaminated sites included liquid waste in unlined and lined lagoons and basins, open burning and detonation areas, structures, and landfills that received both liquid and solid wastes. Primary contaminants of concern are compounds used for chemical weapons materiel production and pesticides. Contaminated soil responses have included excavations and treatment of soil, disposing of contaminated soil in landfills, and capping contaminated soil sites. In July 1987, EPA placed the installation on the NPL. EPA delisted 957 acres from the NPL in FY03, 5,055 acres in FY04, and 7,399 acres in FY06. The Army and EPA signed an interagency agreement (IAG) and federal facility agreement (FFA) in FY89. The installation was divided into two operable units (OUs), one containing all on-post sites and another for those off-post. In FY01, the Army discovered 10 M139 bomblets containing sarin, which it destroyed using the Explosive Destruction System. In 1994, the Army converted its technical review committee into a Restoration Advisory Board. In 1996, the Army and Shell Oil Company (a potentially responsible party) formed an oversight partnership that developed the Remedial Design Implementation Strategy for the on-post OU. The initial 5-year review covering both OUs was completed in FY01.

Environmental studies identified sites potentially requiring remediation at RMA. To date, the Army has transferred approximately 13,000 acres. In FY96, the Army and regulators signed Records of Decision (RODs) for both OUs at the installation. Prior to the signing of the RODs, the Army completed 14 interim responses at 17 sites at the Arsenal, including the installation of five groundwater extraction and treatment systems on-post and one off-post. In FY03, the Army completed an inventory of closed, transferred, and transferring ranges (CTT). The cleanup progress at RMA for FY03 through FY06 is detailed below.

In FY03, the Army completed the RD for the Section 36 Balance of Areas soil remediation and the Basin F Wastepile remediation projects. The installation completed the remedial action (RA) for the post-ROD removal actions for structures. EPA deleted 957 acres from the NPL, 929 of which were

transferred to the General Services Administration (GSA) for disposal. The Army completed an inventory of CTT ranges and placed the inventory in the on-site library. The inventory identified 25 closed unexploded ordnance, discarded military munitions, or munitions constituents sites and 3 closed military ranges totaling 459 acres. None of the sites were found to be eligible for the Military Munitions Response Program (MMRP).

In FY04, the Army began the construction of the South Plants cover and RA construction (RA-C) of the Enhanced Hazardous Waste Landfill (ELF). The Army completed RAs for the Existing Sanitary Landfills (fieldwork), the Burial Trenches soil remediation, the Hex Pit soil remediation (redesign), the Section 35 soil remediation, the Secondary Basins soil remediation, and the North Plants structure demolition and removal projects. The installation continued operation of the RCRA Hazardous Waste Landfill and the Basin A Consolidation Area. The Army transferred approximately 4,929 acres to the Department of the Interior and 126 acres to local governments. GSA completed the sale of the Western Tier Parcel.

In FY05, the installation awarded contracts to perform RAs for the Shell Disposal Trenches remediation and the Basin F Wastepile remediation projects. The installation completed the construction completion report for the Existing (Sanitary) Landfill remediation project and continued operations at the Groundwater Intercept and Treatment System north of the Basin F Well. The Army initiated the installation's second 5-year review.

In FY06, the installation completed the RD and began construction on the Shell Disposal Trenches remediation cover and the Hazardous Waste Landfill cap. The installation completed RA-C at the ELF. RMA began excavation of the Basin F Wastepile. It also completed a ROD Amendment and drafted the RDs for the former Basin F Principal Threat and Section 36 Lime Basins soil remediation projects. The Army completed remediation of 7,399 acres, and EPA removed these acres from the NPL. Of these acres, the Army transferred 7,258 to the U.S. Fish and Wildlife Service, but retained jurisdiction of areas containing water treatment systems.

## FY07 IRP Progress

Rocky Mountain Arsenal completed the RD for the Section 36

Lime Basins Slurry Wall project and the Integrated Cover System (ICS). The installation began RA for ICS Phase I, the former Basin F Principal Threat soil remediation project, and the Munitions Testing Soil remediation project. The Army completed the RA for the remaining Section 35 soil remediation and Miscellaneous Southern Tier soil remediation (Sand Creek Lateral area). The installation completed the Section 36 Balance of Areas soil remediation project. The Army completed the Basin F Wastepile soil remediation fieldwork. The installation began mobilization for the Section 36 Lime Basins soil remediation project. The Army continued to operate and maintain five groundwater treatment systems. The cost of completing environmental restoration has changed significantly due to technical issues.

The installation received the Occupational Safety and Health Administration Voluntary Protection Program Merit Level status and EPA's National Notable Achievement Award for the land deletion of the Internal Parcel.

## FY07 MMRP Progress

The Army has identified no MMRP sites at this installation.

## Plan of Action

Plan of action items for Rocky Mountain Arsenal are grouped below according to program category.

### IRP

- Complete the RD for the Basin F and Basin F Exterior soil remediation projects in FY08.
- Complete RAs for Munitions Testing, Basin F Wastepile, and Section 36 soil remediation projects in FY08.
- Complete the RA for Miscellaneous Southern Tier and Section 35 soil remediation projects in FY08.
- Complete the second 5-year review report in FY08.

### MMRP

There are no MMRP actions scheduled for FY08 or FY09.

<b>FFID:</b>	CA921382078000	<b>Funding to Date:</b>	\$ 65.5 million
<b>Size:</b>	485 acres	<b>Est. CTC (Comp Year):</b>	\$ 17.1 million (FY 2024)
<b>Mission:</b>	Repaired and maintained communications and electronic equipment	<b>IRP Sites (Final RIP/RC):</b>	16 (FY1997)
<b>HRS Score:</b>	44.46; placed on NPL in July 1987	<b>MMRP Sites (Final RIP/RC):</b>	None
<b>IAG Status:</b>	IAG signed in FY1988	<b>Five-Year Review Status:</b>	Completed and underway
<b>Contaminants:</b>	Oil and grease, cyanide, metals, solvents, metal plating wastes, wastewater containing caustics		
<b>Media Affected:</b>	Groundwater and Soil		



Sacramento, California

**Progress To Date**

When in operation, Sacramento Army Depot (SAAD) provided support for communications and electronic equipment. In July 1987, EPA placed the installation on the NPL. The 1991 BRAC Commission recommended closure of the SAAD, and the Army closed the installation in March 1995. During FY88, the installation signed an interagency agreement (IAG) with EPA. In FY93, the installation completed a CERFA report and a BRAC cleanup plan. The installation formed a Restoration Advisory Board (RAB) in FY94. The installation completed a 5-year review in FY01.

To date, all acreage has been transferred. The Army divided its contaminated sites into four operable units (OUs). During FY92, the Army signed Records of Decision (RODs) for all four OUs, and in FY95 signed an installationwide ROD. The cleanup progress at SAAD for FY03 through FY06 is detailed below.

In FY03, the installation completed and received approval from EPA on an interim remedial action (RA) for groundwater report. The report contained an addendum to a plume capture assessment report that resolved regulatory issues. The installation submitted a supplemental biological assessment to the U.S. Fish and Wildlife Service and received concurrence.

In FY04, the installation completed the fate-and-transport phase of groundwater modeling.

In FY05, the Army signed the 2B Parcel Deed and transferred the final installation acreage to the City of Sacramento. The installation began groundwater and soil sampling at the South Post Plume. The Army is using information from this sampling in the forthcoming optimization plan and model. The installation reviewed all leases in support of groundwater monitoring; several were renewed, and one was terminated.

In FY06, SAAD completed soil and groundwater sampling for the South Post Plume. The installation also initiated a 5-year review, which was completed after issuance of the optimization report.

**FY07 IRP Progress**

SAAD completed draft final of the Groundwater Cleanup Optimization Report and 5-year review. The installation awarded a contract for future RAs. The BRAC office discussed groundwater reuse options at the depot for a prospective Ethanol Production plant. The installation abandoned 14 monitoring wells and four piezometers.

Administrative issues delayed the 5-year review. Technical issues delayed the groundwater monitoring plan amendment. Regulatory issues delayed the optimization report for evaluating the groundwater system. Technical and regulatory issues delayed the bioremediation pilot study.

SAAD held an annual RAB meeting.

**FY07 MMRP Progress**

The Army has identified no Military Munitions Response Program (MMRP) sites at this installation.

**Plan of Action**

Plan of action items for Sacramento Army Depot are grouped below according to program category.

**IRP**

- Award Performance Based Action contract for groundwater treatment in FY08.
- Perform bioremediation pilot study in FY08.
- Initiate a Focused Feasibility Study in FY08.
- Decrease groundwater monitoring in FY08.
- Finalize the optimization evaluation of the groundwater treatment system in FY08.
- Complete 5-year review and groundwater monitoring plan amendment in FY08.
- Rehabilitate Extraction Well 10 in FY08.

**MMRP**

There are no MMRP actions scheduled for FY08 or FY09.

<b>FFID:</b>	CA917002320200	<b>Funding to Date:</b>	\$ 36.4 million
<b>Size:</b>	541 acres	<b>Est. CTC (Comp Year):</b>	\$ 6.1 million (FY 2015)
<b>Mission:</b>	Provided recruit training for enlisted personnel and specialized training for officers and enlisted personnel	<b>IRP Sites (Final RIP/RC):</b>	10 (FY2012)
<b>HRS Score:</b>	N/A	<b>MMRP Sites (Final RIP/RC):</b>	None
<b>IAG Status:</b>	None	<b>Five-Year Review Status:</b>	A 5-year review is not required for this installation.
<b>Contaminants:</b>	Pesticides, solvents, POLs, paints, VOCs, SVOCs, metals, radioactive materials		
<b>Media Affected:</b>	Groundwater, Surface Water, Sediment, Soil		



San Diego, California

**Progress To Date**

In July 1993, the BRAC Commission recommended closure of San Diego Naval Training Center (NTC) and relocation of personnel, equipment, and mission support to other naval training centers. The installation closed in April 1997. Certain installation facilities and activities were retained to support other Navy operations in the San Diego area. In FY86, an initial assessment study identified 12 sites that might present environmental problems: five sites are being addressed under CERCLA and seven under the underground storage tank program. Sites include a landfill and petroleum-contaminated areas. A community relations plan was developed in FY92 and updated in FY95. A Restoration Advisory Board (RAB) and an information repository containing the most current documents of the administrative record were established in FY94. The installation's BRAC cleanup plan was updated in FY99. The RAB held a meeting in March 2004, and has been inactive since.

Installation Restoration Program (IRP) sites have been identified at this installation. The installation has signed one Record of Decision. In FY02, the Navy completed an inventory of all Military Munitions Response Program (MMRP) sites. The cleanup progress at San Diego NTC for FY03 through FY06 is detailed below.

In FY03, the installation initiated a preliminary assessment for Site 101.

In FY04, the installation completed the remedial investigation (RI) for the Site 12 boat channel. The City of San Diego requested initiation of actions necessary to accomplish an early transfer of the Boat Channel. The installation also closed Site 101. The installation continued facilitating the RAB meetings.

In FY05, San Diego NTC received comments from the Regional Water Quality Control Board (RWQCB) and prepared a scope of work and preliminary cost estimates for a feasibility study. The installation continued to pursue an early transfer with the City of San Diego.

In FY06, San Diego NTC met with the RWQCB and received comments on a final RI report. The Navy continued early transfer discussions with the City of San Diego. The Navy also

awarded a contract to determine the nature and sources of contamination at the site, and to provide an assessment of potentially responsible parties.

**FY07 IRP Progress**

San Diego NTC continued discussions with the RWQCB on the final RI report. The installation continued to pursue an early transfer with the City of San Diego. The installation considered performing a non-time-critical removal action to address contaminated sediment at Site 12.

Regulatory issues delayed conducting a study of the sources of contamination for Site 12.

The Navy evaluated reactivating the RAB. It was determined that the RAB will be reestablished.

**FY07 MMRP Progress**

The Navy has identified no MMRP sites at this installation.

**Plan of Action**

Plan of action items for San Diego Naval Training Center are grouped below according to program category.

**IRP**

- Complete CERCLA response at NTC Boat Channel in FY08-FY09.

**MMRP**

There are no MMRP actions scheduled for FY08 or FY09.

<b>FFID:</b>	IL59799F221600	<b>Funding to Date:</b>	\$ 1.7 million
<b>Size:</b>	43,000 acres	<b>Est. CTC (Comp Year):</b>	\$ 36.6 million (FY 2029)
<b>Mission:</b>	Manufactured and loaded ordnance for shipping	<b>IRP Sites (Final RIP/RC):</b>	1 (FY2019)
<b>HRS Score:</b>	43.70; placed on NPL in July 1987	<b>MMRP Sites (Final RIP/RC):</b>	1 (FY2029)
<b>IAG Status:</b>	IAG signed in September 1991	<b>Five-Year Review Status:</b>	A 5-year review is not required for this installation.
<b>Contaminants:</b>	Organic solvents, inorganic compounds, PAHs, PCBs, munitions, heavy metals, VOCs		
<b>Media Affected:</b>	Groundwater and Soil		



Carterville, Illinois

## Progress To Date

The former Illinois Ordnance Plant, which operated from 1942 to 1945, is located on the eastern portion of the U.S. Fish and Wildlife Service's (USFWS) Crab Orchard National Wildlife Refuge. The ordnance plant served as a manufacturing and loading site for high-explosive shells, bombs, and other weapons components. Initially, 33 areas were identified that required further investigation. The Army grouped these areas into four operable units (OUs): the polychlorinated biphenyls (PCBs) OU, the Metals OU, the Miscellaneous Area OU, and the Explosives and Munitions Manufacturing Area (EMMA) OU. EPA placed the property on the NPL in July 1987. The Army and EPA signed an interagency agreement (IAG) in September 1991. In FY96, the U.S. Army Corps of Engineers (USACE) began fieldwork for the munitions and explosives of concern (MEC) engineering evaluation and cost analysis. The parties involved determined that USFWS must provide preliminary investigations for uncharacterized sites. The remedial action for MEC initiated by USACE in FY98 at the EMMA OU was completed in FY01. The USFWS established a technical working group (TWG) in FY00 consisting of USFWS, EPA, Illinois Environmental Protection Agency (IEPA), and USACE. An electronic administrative record was developed for the EMMA OU in FY04.

The cleanup progress for Sangamo Electric Dump/Crab Orchard National Wildlife Refuge for FY03 through FY06 is detailed below.

In FY03, USACE continued long-term management (LTM) and performed one round of groundwater monitoring well sampling in the EMMA OU. The results were provided to IEPA, EPA, and USFWS. The TWG met three times to discuss the land use control (LUC) plan for the entire Crab Orchard National Wildlife Refuge.

In FY04, USACE continued LTM by performing two rounds of groundwater monitoring in the EMMA OU, the results of which it reported to IEPA, EPA, and USFWS. USACE also reviewed the draft propertywide USFWS LUC plan. In addition, the former Illinois Ordnance Plant developed an electronic administrative record file for the EMMA OU and provided electronic copies to IEPA, EPA, and USFWS. The TWG continued to hold meetings about potentially responsible party (PRP) sites.

In FY05, USACE continued LTM by performing two rounds of groundwater monitoring in the EMMA OU and reported the results to IEPA, EPA, and USFWS. USACE also reviewed the draft propertywide USFWS LUC plan and prepared a draft insert for the EMMA OU portion. The TWG continued to hold meetings regarding PRP sites, and USACE attended one of the meetings.

In FY06, USACE continued LTM by performing two rounds of groundwater monitoring in the EMMA OU and reported the results to IEPA, EPA, and USFWS. Based on IEPA concerns, three wells (two at Crab Orchard Cemetery 3 and one at Crab Orchard Plant 4) were installed to further assist in delineating the explosive contamination plumes at both sites. USACE also reviewed the draft final propertywide USFWS LUC plan and prepared a draft insert for the EMMA OU portion. USACE prepared the draft PRP inventory project report (INPR). USACE participated in the development of the propertywide 5-year review which included site visits by IEPA, EPA, and USFWS. USACE continued LTM for EMMA OU and conducted a 5-year review. USACE started preparation of a draft INPR for a new Military Munitions Response Program (MMRP) project to further investigate a new land mine discovery. The TWG continued to hold meetings regarding PRP sites and USACE attended one of the meetings.

## FY07 IRP Progress

USACE continued LTM by performing two rounds of groundwater monitoring in the EMMA OU and reported the results to IEPA, EPA, and USFWS. USACE obtained regulatory concurrence on project closeout for containerized hazardous toxic and radioactive wastes. USACE also participated in the final review of the propertywide 5-year review. The cost of completing environmental restoration has changed significantly due to technical issues.

USACE continued the PRP INPR; however, technical issues delayed completion.

The TWG continued to hold meetings regarding PRP sites.

## FY07 MMRP Progress

USACE obtained regulatory concurrence on project closeout for MMRP project 03.

USACE continued revisions on the MMRP INPR; however, regulatory issues delayed the completion.

## Plan of Action

Plan of action items for Sangamo Electric Dump/Crab Orchard National Wildlife Refuge are grouped below according to program category.

### IRP

- Continue LTM at the EMMA OU in FY08.
- Complete PRP INPR in FY08.

### MMRP

- Complete MMRP INPR in FY08.

<b>FFID:</b>	IL521382080300	<b>Funding to Date:</b>	\$ 115.0 million
<b>Size:</b>	13,062 acres	<b>Est. CTC (Comp Year):</b>	\$ 110.2 million (FY 2043)
<b>Mission:</b>	Receive, store, and demilitarize ammunition; manufacture ammunition-specific equipment	<b>IRP Sites (Final RIP/RC):</b>	124 (FY2015)
<b>HRS Score:</b>	42.20; placed on NPL in March 1989	<b>MMRP Sites (Final RIP/RC):</b>	15 (FY2018)
<b>IAG Status:</b>	IAG signed in FY1989	<b>Five-Year Review Status:</b>	A 5-year review is not required for this installation.
<b>Contaminants:</b>	Explosives, metals, solvents, POLs, VOCs, SVOCs, propellants		
<b>Media Affected:</b>	Groundwater, Surface Water, Sediment, Soil		



Savanna, Illinois

## Progress To Date

Savanna Army Depot (AD) began operation in 1917 as the Savanna Proving Grounds. During the 1920s, the mission changed to include storage, receipt, issuance, demilitarization, and renovation of ammunition. Contaminants were released at landfills; the open burning and open detonation ground; the fire training area; and ammunition load, assemble, and pack facilities. EPA placed the installation on the NPL in March 1989. The Army and EPA signed an interagency agreement (IAG) in FY89. In July 1995, the BRAC Commission recommended closure of the Savanna Depot Activity and relocation of the Army Defense Ammunition Center and School to McAlester Army Ammunition Plant in Oklahoma. In FY96, the Army formed a BRAC cleanup team (BCT) and a Restoration Advisory Board (RAB). In FY97, the installation completed a BRAC cleanup plan and updated it in FY04 and FY05. In FY00, the Army formed a Strategic Management, Analysis, Requirements and Technology (SMART) Team to address ordnance and explosives hazards at the installation. The team included senior level officials of the Army, EPA, Illinois Environmental Protection Agency, and the U.S. Fish and Wildlife Service (FWS). In FY02, the Army successfully completed a removal action at the Pesticide Burial Area.

To date, the Army and regulators have signed one Record of Decision and transferred approximately 4,200 acres of land. The cleanup progress at Savanna AD for FY03 through FY06 is detailed below.

In FY03, the Army completed findings of suitability to transfer (FOSTs) and environmental condition of property (ECP) category assessments that contributed to the transfer of 3,002 acres to the FWS and 221 acres to the local redevelopment authority (LRA). Both transfers were preceded by completion of a memorandum of agreement with each transferee. The installation initiated removal actions at Sites 15/33, 25, 44, and 76AD. The installation also initiated consolidation of all remedial investigation (RI) efforts at Sites 13 and 14. The Army completed the Military Munitions Response Program (MMRP) inventory and identified MMRP sites at the Savanna AD. The Army awarded the contract for munitions and explosives of concern (MEC) investigation of six large tracts of land once part of open detonation and artillery impact area

operations. The installation completed the Zone L Phase II investigation and initiated Phase III.

In FY04, the installation completed Phase I of the MEC investigations on the Small Arms area behind Buildings 134/140, the Zone F area, River Road strip, Primm's Pond area, and Central E-Area. The Army completed the required transfer steps (including FOSTs and ECPs) on the Apple River Island parcel, the Primm's Pond parcel, the LRA Parcel 1, and the LRA Parcel 4, and transferred approximately 437 acres. The installation completed removal actions on Sites 15/33, 25, 44, and 76AD, and determined that the groundwater plume is only located under Site 15/33, which is located on LRA Parcel 7. The installation continued partnering with the Savanna BCT, the SMART Team, and the RAB to expedite cleanup and land transfers.

In FY05, Savanna AD completed RIs for three major areas of the Depot. Additionally, the Army awarded a performance-based contract (PBC) for nine sites. The installation, the Army Environmental Center, and the Army Corps of Engineers determined that the number of sites suitable for the PBC was 9 rather than 11. The Army completed all ECP category assessments and FOSTs for the transfer of 515 acres to the LRA. The installation completed the initial steps of the MMRP RI/feasibility study for the Old Burning Grounds (OBG).

In FY06, the installation awarded the PBC contract and completed the FOST for LRA Parcel 11A. The installation also completed the finding of suitability for early transfer (FOSET) for all remaining property scheduled for transfer to the LRA. Regulators reviewed and submitted comments on the FOSET. The Army and LRA are addressing comments to determine whether early transfer is possible. Savanna AD also completed remediation of Site 82SS. Savanna AD completed fieldwork at the OBG. The Army also completed the MEC investigation of Zone F (LRA Parcel 6), the Primm's Pond area, the River Road Strip, and the central portion of the 75-mm Graze Impact Range (E Area). Preliminary findings indicate that further work is needed at the River Road Strip and Graze Impact Range. The Depot also completed the removal action project for Sites 15/33 by sifting and treating lead-contaminated soil, debris, and small arms ammunition.

## FY07 IRP Progress

The LRA withdrew its request for early transfer, terminating the FOSET review. Savanna AD completed ECPs for the FWS Parcels 8A, 8C, and 9. The installation completed FOSTs for LRA Parcels 6 and 15A. The Army developed workplans for RI reports. The cost of completing environmental restoration has changed significantly due to changes in estimating criteria.

## FY07 MMRP Progress

Savanna AD continued the MEC removal action on Zone L. The installation completed fieldwork for the MEC investigation at the 155-mm high explosives Impact Range, the Grenade Burial Area, and the A-Area Detonation Pits. PBC contractors developed the work plan for the decontamination of explosives-contaminated buildings and submitted the explosives safety submission for DoD Explosives Safety Board review.

## Plan of Action

Plan of action items for Savanna Army Depot are grouped below according to program category.

### IRP

- Transfer LRA Parcels 6 and 15A, and FWS Parcels 8A, 8C, and 9 in FY08.
- Initiate fieldwork at the building decontamination project in FY08.

### MMRP

- Complete the MEC removal project on Zone L in FY08-FY09.
- Complete Phase II MEC investigation of the expanded area of the 75-mm Graze Impact Range in FY08-FY09.
- Complete the Phase I MEC investigation on the Upper Function Test Range in FY08-FY09.

<b>FFID:</b>	NY221382083000	<b>Funding to Date:</b>	\$ 100.5 million
<b>Size:</b>	10,594 acres	<b>Est. CTC (Comp Year):</b>	\$ 35.2 million (FY 2027)
<b>Mission:</b>	Received, stored, distributed, maintained, and demilitarized conventional ammunition, explosives, and special weapons	<b>IRP Sites (Final RIP/RC):</b>	72 (FY2009)
<b>HRS Score:</b>	37.30; placed on NPL in August 1990	<b>MMRP Sites (Final RIP/RC):</b>	13 (FY2017)
<b>IAG Status:</b>	FFA signed in January 1993	<b>Five-Year Review Status:</b>	Planned
<b>Contaminants:</b>	Heavy metals, radioactive isotopes, petroleum hydrocarbons, VOCs, SVOCs, chlorinated solvents, radioactive materials		
<b>Media Affected:</b>	Groundwater, Surface Water, Sediment, Soil		



Romulus, New York

**Progress To Date**

During its operation, Seneca Army Depot (AD) stored munitions and supplies, and distributed them to the Army. Such operations included demilitarization and disposal of munitions and explosives. Since FY78, Army studies identified the following sites or site types: an open burning ground, an ash landfill, other landfills, low-level radioactive waste burial grounds, underground storage tanks (USTs), spill areas, fire training areas, and munitions disposal areas. Interim actions include removal of several USTs and associated contaminated soil, and removal and treatment of approximately 35,000 cubic yards of soil from the ash landfill. EPA placed the installation on the NPL in August 1990. The Army and EPA signed a federal facility agreement (FFA) in January 1993. In July 1995, the BRAC Commission recommended closing Seneca AD, except for an enclave that will store hazardous materials and ores. In FY96, the installation converted its technical review committee to a Restoration Advisory Board (RAB) and established a BRAC cleanup team (BCT). The community formed a local reuse authority (LRA) and began developing a land reuse plan. The installation closed in September 2000.

To date, the Army has signed six Records of Decision (RODs) and transferred over 7,900 acres. In FY94, the installation completed a solid waste management classification study, identifying solid waste management units. 36 units required either no further action (NFA) or completion reports, eight required removal actions, and 28 required remedial investigations and feasibility studies (RI/FSs). The 28 sites requiring RI/FSs were divided into 13 groups. The Army has also achieved RCRA closure at two sites. In FY03, the Army completed an inventory of all Military Munitions Response Program (MMRP) sites. The cleanup progress at Seneca AD for FY03 through FY06 is detailed below.

In FY03, the installation completed 10 interim remedial actions (IRAs) for the sludge piles, paint disposal areas, volatile organic compounds (VOCs), and metals. The Army signed the ROD for 22 no action/NFA sites, closing these sites. The installation also accomplished work to close RCRA storage units. The installation transferred 6,981 acres of property. The Army completed an inventory of closed, transferred, and transferring ranges and sites with unexploded ordnance, discarded military

munitions, or munitions constituents. It identified MMRP sites at the installation, 13 of which achieved response complete (RC).

In FY04, the Army signed two RODs with land use controls. The installation completed three IRAs and continued work on additional IRAs. The installation investigated six operable units and removed 13 USTs. The Army transferred 25 acres to the LRA. The installation initiated site inspections (SIs) at three MMRP sites using geophysical equipment to locate all potential munitions and explosives of concern. The BCT met every other month to discuss issues, reuse priorities, and overall progress. The RAB continued to meet regularly and received briefings on site activities.

In FY05, the installation completed one ROD and transferred 967 acres of property. The Army continued to develop a second ROD that addresses 14 sites. The installation completed three IRAs and initiated a remediation project that uses mulch to treat groundwater with trichloroethylene (TCE) contamination. Additionally, the Army continued to address termination of the Nuclear Regulatory Commission license for the storage of depleted uranium rounds. The installation completed an SI and initiated IRAs at three MMRP sites. The RAB continued to meet quarterly.

In FY06, the Army awarded a performance-based contract to address six sites through remedy in place/RC. The installation completed RA at two sites and continued RA at five other sites. The Army also completed RODs for four sites. Seneca AD initiated RA at three MMRP sites. The Army completed the ROD for two sites with MMRP and CERCLA hazardous substances. The installation continued to address concern of residual chemical contamination at three MMRP sites. The RAB continued to meet quarterly to discuss restoration activities.

**FY07 IRP Progress**

The installation completed a RA at two sites and an IRA at one site. The installation completed a ROD for 17 sites.

**FY07 MMRP Progress**

The installation completed the IRA and prepared closeout documents for three sites. The installation continued to work on the ROD for MMRP sites with CERCLA hazardous substances.

**Plan of Action**

Plan of action items for Seneca Army Depot are grouped below according to program category.

**IRP**

- Transfer approximately 500 acres in FY08.
- Complete ROD and RA for four sites in FY08.
- Complete closeout documents for three sites in FY08.
- Complete ROD for five sites in FY08-FY09.
- Complete ROD and initiate RA at one site in FY08-FY09.

**MMRP**

- Complete ROD at three sites with CERCLA hazardous substances in FY08.
- Complete RA and begin long-term management at two sites in FY08.

<b>FFID:</b>	CA921382084300	<b>Contaminants:</b>	Petroleum products, solvents (including TCE), explosives, metals, VOCs
<b>Size:</b>	96,930 acres	<b>Media Affected:</b>	Groundwater, Sediment, Soil
<b>Mission:</b>	Provide world-wide expeditionary logistics support for the defenders of our Nation through: Long-term Storage, Maintenance, Care of Supplies in Storage Reset, and Container management, while embracing the Army values	<b>Funding to Date:</b>	\$ 86.8 million
<b>HRS Score:</b>	N/A	<b>Est. CTC (Comp Year):</b>	\$ 167.3 million (FY 2017)
<b>IAG Status:</b>	FFA signed in May 1991	<b>IRP Sites (Final RIP/RC):</b>	46 (FY2008)
		<b>MMRP Sites (Final RIP/RC):</b>	15 (FY2017)
		<b>Five-Year Review Status:</b>	Completed



Herlong, California

## Progress To Date

In 1995, the BRAC Commission recommended realignment of Sierra Army Depot (AD). The 2005 BRAC Commission also recommended Sierra AD for further realignment. The Army and EPA signed a federal facility agreement (FFA) in May 1991. The Army identified approximately 64,996 acres as excess. Contamination at the depot originated from burn trenches, explosives leaching beds, landfills, burial sites, spill sites, sewage lines, underground storage tanks, sumps, and fire training areas. Primary contaminants in soil and groundwater include trichloroethylene (TCE), petroleum products, and explosives. Investigations identified sites, 12 of which required no further action (NFA). In FY96, the installation formed a BRAC cleanup team. The latest version of the BRAC cleanup plan was published in FY97. In FY97, the installation established a Restoration Advisory Board (RAB). The installation completed 5-year reviews in FY02 and FY06.

To date, Records of Decision (RODs) address 21 sites. Ongoing operations include groundwater enhancement at four sites (two sites operate with pilot systems) and a soil vapor extraction system (SVE) at the Defense Reutilization and Marketing Office (DRMO) Trench Area. The installation completed a property transfer in FY99, to the Federal Bureau of Prisons. In FY02, the Army awarded a guaranteed fixed-price remediation (GFPR) contract that addressed all open restoration sites at Sierra AD. The Herlong Parcel, Honey Lake, and the ordnance and explosives (O&E) clean portion of the Airfield and East Shore parcels were transferred in FY03. The Susanville Road, Cross Depot Access parcels, and 885 additional acres were transferred in FY04. The installation transferred 136 acres of the East Shore area in FY05. The Army has transferred approximately 62,636 acres to date. The Army completed the closed, transferred, and transferring (CTT) range and site inventory for both the BRAC and active sites, identifying BRAC Military Munitions Response Program (MMRP) sites and active/closed MMRP sites at Sierra AD. The cleanup progress at Sierra AD for FY03 through FY06 is detailed below.

In FY03, the installation completed the vegetation survey of Honey Lake and a protocol survey for the Carson Wandering Skipper on two BRAC parcels (Cross Depot Access and Honey Lake). The installation received concurrence from the U.S. Fish

and Wildlife Service and the State Historic Preservation Office to transfer all BRAC parcels. The Army transferred the Herlong Parcel, Honey Lake, and the O&E clean portion of the Airfield and East Shore parcels. The Army awarded a GFPR contract that addressed all open restoration sites at Sierra AD. The Army completed the CTT range and site inventory for both the BRAC and active sites, identifying 5 BRAC MMRP sites and 11 active/closed MMRP sites at Sierra AD. The RAB met three times to review the findings of suitability to transfer for the Herlong Parcel, the O&E clean portion of the Airfield and East Shore, and Honey Lake, the finding of suitability to lease for the clean portion of Honey Lake, and the Environmental Baseline Survey addendums for Susanville Road and the Cross Depot Access Parcel.

In FY04, the installation completed the engineering evaluation and cost analysis (EE/CA) and the munitions and explosives of concern response action on 885 acres of the East Shore, Airfield, and North Cross Depot Access parcels. The Army transferred the property with completed response actions and the Susanville Road and the Cross Depot Access parcels. The installation drafted the EE/CA for the Honey Lake Demolition Range Dry Lake Area. The GFPR contract for all active sites began. The Army initiated the MMRP site inspection (SI).

In FY05, the installation completed a ROD for the Upper Burning Grounds, Old Popping Furnace, and Building 79 Yard. Biological enhancements were injected into the groundwater at four sites. The Army completed the Honey Lake Demolition Area EE/CA and the response action at the East Shore area, and transferred the remaining 136 acres. The pump-and-treat system and the SVE system continued operations. The Army completed the MMRP SI for all inactive sites, with the exception of the recently identified Upper Burning Grounds Area. The installation renewed its RAB charter.

In FY06, the installation constructed two corrective action management units at Hansen's Hole and the Old Popping Furnace. Sierra AD conducted enhanced dechlorination at four sites and continued SVE system operations. Sierra AD also completed soil removal action at Building 79. The Army also completed 5-year reviews at the DRMO site, and of monitored natural attenuation at the TNT area. The Army received regulatory approval of the remedial action plan for the Honey

Lake Demolition Range. The installation completed the SI for seven MMRP active sites, two of which required NFA.

## FY07 IRP Progress

Sierra AD continued operation of the SVE system at DRMO. The installation initiated the SI for the Upper Burning Grounds. The Army completed the feasibility study for the Abandoned Landfill (ALF). A proposed plan for ALF is undergoing public comment. The installation constructed and began operation of a pilot SVE system at Building 210. Sierra AD continued enhanced reductive dechlorination efforts at four sites. The cost of completing environmental restoration has changed significantly due to changes in estimating criteria.

## FY07 MMRP Progress

The installation conducted an SI at the Upper Burning Grounds Area. Two additional sites were added based on the historical records review; and Sierra AD conducted an SI at these sites.

## Plan of Action

Plan of action items for Sierra Army Depot are grouped below according to program category.

### IRP

- Complete ROD for the ALF in FY08.
- Construct well network and achieve remedy in place at ALF in FY08.
- Continue operation of SVE system at Building 210 in FY08.

### MMRP

- Conduct response to unexploded ordnance on Upper Burning Grounds in FY08.
- Complete final SI report in FY08.
- Begin RI at Demolition Area, Hazard Classification Site, and Bureau of Land Management land in FY09.

<b>FFID:</b>	MA117002202200	<b>Media Affected:</b>	Groundwater, Surface Water, Sediment, Soil
<b>Size:</b>	2,094 acres	<b>Funding to Date:</b>	\$ 49.1 million
<b>Mission:</b>	Provided administrative coordination and logistical support for Reserve units; provided logistical support for the Marine Air Reserve Training Detachment South Weymouth	<b>Est. CTC (Comp Year):</b>	\$ 36.0 million (FY 2034)
<b>HRS Score:</b>	50.00; placed on NPL in May 1994	<b>IRP Sites (Final RIP/RC):</b>	13 (FY2011)
<b>IAG Status:</b>	FFA signed in April 2000	<b>MMRP Sites (Final RIP/RC):</b>	2 (FY2007)
<b>Contaminants:</b>	UXO, VOCs, SVOCs, hydrocarbons industrial wastes, solvents, petroleum, acids, paints, metals, photographic chemicals	<b>Five-Year Review Status:</b>	A 5-year review is not required for this installation.



Weymouth, Massachusetts

**Progress To Date**

In July 1995, the BRAC Commission recommended closure of the South Weymouth Naval Air Station (NAS). Operations were transferred to Brunswick NAS; aircraft, personnel, and equipment were relocated. The installation was closed in September 1997. Prominent site types include a landfill, a UST, a tank farm where jet fuel was stored, sewage treatment facilities, a rubble disposal area, and a firefighter training area. EPA placed the installation on the NPL in May 1994, and the installation signed a federal facility agreement (FFA) in April 2000. The installation established a technical review committee in FY92 and converted it to a Restoration Advisory Board (RAB) in FY94. In FY92, the installation established an administrative record and four information repositories, and completed its community relations plan, which was updated in August 1998. A BRAC cleanup plan was released. A technical assistance for public participation grant was awarded to the RAB in FY99.

Installation Restoration Program (IRP) sites have been identified at this installation. In FY02, the Navy completed an inventory of all Military Munitions Response Program (MMRP) sites at this installation. The installation has completed a Record of Decision (ROD) for Sites 1, 2, 3, 4, 5, and 8. The cleanup progress at South Weymouth NAS for FY03 through FY06 is detailed below.

In FY03, the installation completed a feasibility study (FS) at Site 1. The installation also completed a field program and released the Site 4 (proposed plan [PP]) for public comment. The installation continued to incorporate the environmental baseline survey to the basewide report work. The Navy completed an inventory of all MMRP sites. Preliminary assessments were completed and no further action (NFA) was planned.

In FY04, the Sites 2 and 4 RODs were signed and the PP was completed for Site 4. South Weymouth NAS completed the Site 2 remedial design (RD) and initiated the remedial action (RA).

In FY05, the installation continued to complete RA at Site 2 consistent with the ROD. South Weymouth NAS collected supplemental groundwater data for Site 5 and favorable results allowed the NFA PP to be finalized. The installation continued remedial investigation (RI) work plan development for Sites 9,

10, and 11. The installation completed a revised reuse plan that was adopted by the local redevelopment authority and the affected communities. Sites 3 and 4 were issued corrective action demands by the State, and remedial efforts began. The Navy submitted a revised draft final PP for Site 1 after the revised reuse plan was approved.

In FY06, South Weymouth NAS signed the Site 5 ROD. The installation completed the remedy at Site 2. The Navy issued the draft final FS for Site 7. Additionally, the Navy began design for Site 3 and completed state regulation cleanup required at Site 4. The installation completed a removal action for unexploded ordnance (UXO) 1.

**FY07 IRP Progress**

South Weymouth NAS continued work on RIs for Sites 9 and 10. The installation finalized the PP and signed the ROD for Site 1, and finalized the FS and PP for Site 7. South Weymouth NAS continued the RD for Site 3.

**FY07 MMRP Progress**

South Weymouth NAS continued development of the FS and PP for UXO 1. The installation completed preliminary planning for a limited surface clearance.

**Plan of Action**

Plan of action items for South Weymouth Naval Air Station are grouped below according to program category.

**IRP**

- Complete the RIs and FSs for Sites 9, 10, and 11 in FY08.
- Complete RD for Site 1 in FY08.
- Sign the ROD for Site 7 in FY08.
- Complete the design and remedy for Site 3 in FY08-FY09.
- Initiate the remedy for Site 1 in FY09.

**MMRP**

- Complete the FS, PP, and ROD for UXO 1 in FY08.
- Complete the limited surface clearance in FY08.
- Implement land use controls in FY09.

<b>FFID:</b>	VA317002758100	<b>Media Affected:</b>	Groundwater, Surface Water, Sediment, Soil
<b>Size:</b>	490 acres	<b>Funding to Date:</b>	\$ 16.1 million
<b>Mission:</b>	Provide radar testing range and various administrative and warehousing facilities for the nearby Norfolk Naval Shipyard and other local Navy activities	<b>Est. CTC (Comp Year):</b>	\$ 16.1 million (FY 2026)
<b>HRS Score:</b>	50.0; placed on NPL in August 2000	<b>IRP Sites (Final RIP/RC):</b>	15 (FY2014)
<b>IAG Status:</b>	FFA signed in July 2004	<b>MMRP Sites (Final RIP/RC):</b>	None
<b>Contaminants:</b>	Pesticides, heavy metals, SVOCs, solvents, explosives, VOCs, propellants, radioactive materials	<b>Five-Year Review Status:</b>	Planned



Chesapeake, Virginia

**Progress To Date**

The St. Juliens Creek Annex has been used since 1849 for storing, loading, assembling, issuing, and receiving naval ammunition. Contamination resulted from past handling of and operations involving hazardous materials. The initial assessment study revealed low concentrations of ordnance materials throughout the facility. An administrative record was established in FY99. EPA placed the facility on the NPL in August 2000, and the Navy signed a federal facility agreement (FFA) in July 2004. The installation formed a Restoration Advisory Board in FY00 and completed a community relations plan (CRP) in FY01.

Installation Restoration Program (IRP) sites have been identified at this installation. The installation completed a Record of Decision (ROD) for Site 6 in FY03, Site 4 in FY04, and Site 3 in FY06. In FY02, the Navy completed an inventory of all Military Munitions Response Program (MMRP) sites. The cleanup progress at St. Juliens Creek Annex for FY03 through FY06 is detailed below.

In FY03, the installation completed a draft remedial investigation (RI)/human health risk assessment (HHRA)/ecological risk assessment (ERA) for Site 2, as well as a draft feasibility study (FS) for Site 4. The installation also completed the final RI/HHRA/ERA report for Sites 3, 4, 5, and 6. St. Juliens Creek Annex completed a draft work plan for the interim remedial action (IRA) at Site 3. In addition, the installation completed a final work plan for the site screening assessment (SSA) addendum at Site 8 and Areas of Concern (AOCs) 13, 14, and K, and a site inspection (SI) at Sites 19, 21, and AOC 1. A final site-specific work plan and sampling analysis plan for the basewide groundwater background investigation report was completed. The final technical memorandum site delineation/supplemental RI for Site 3 was completed. The final Site 6 closeout report and Site 3 removal summary was completed. The master project plan was updated and finalized. The final ROD for Site 6 was completed. The installation completed the final work plan for the Blows Creek baseline ERA (BERA) (Phase I).

In FY04, the installation conducted supplemental investigations for Sites 2 and 5, and a BERA for Blows Creek. The final confirmation closeout report and construction closeout report

for the Site 3 IRA were also completed. The installation completed the RI/HHRA/ERA for Site 2, as well as a final FFA. Additionally, the background investigation report SSA addendum for groundwater was completed. A draft Phase II expanded RI work plan technical memo for Site 2 was completed, along with a supplemental SI technical memo of Sites 19 and 21. The installation also completed a final ROD and remedial decision for Site 4. The installation completed a final IRA (Phase II) work plan for Site 3 and conducted the removal action. The final confirmation closeout report and construction closeout report for the Site 3 IRA (Phase II) were also completed. The installation completed a draft SSA addendum at Site 8 and AOCs 13, 14, and K, along with a draft SI at Sites 8, 19, 21, and AOC 1. The installation also completed a draft watershed contaminated source document for the southern branch of the Elizabeth River watershed.

In FY05, the installation conducted a draft expanded RI (ERI) for Site 2 and completed the final proposed RA plan and draft ROD for Site 3. It also completed the final specifications, work plan, basis of design, and construction of the soil cover for Site 4. For Site 5, the installation completed the draft final RI/HHRA/ERA and the draft engineering evaluation and cost analysis (EE/CA). The installation completed the final supplemental SI report and draft EE/CA for Site 19. The Navy awarded a contract for hot spot removal. The installation conducted screening site inspection (SSI) and completed a work plan for additional groundwater delineation activities at Site 21. It completed the Phase II Blow's Creek BERA work plan and conducted the field activities. The installation finalized the watershed contaminated source document for the Southern Branch of the Elizabeth River Watershed. The installation implemented engineering controls at various IRP sites. The Navy developed a draft updated CRP.

In FY06, St. Juliens Creek Annex completed an RA, RA completion report, groundwater monitoring plan, and land use control remedial design at Site 4. The installation completed a draft ERI for Site 2 and final ERI for Site 5. The installation finalized a ROD for Site 3. Additionally, the Navy completed a final EE/CA, action memorandum, IRA, and construction closeout report at Site 19.

**FY07 IRP Progress**

St. Juliens Creek Annex implemented a Triad approach at Site 2 to fully delineate the contamination. The installation completed the Site 19 closeout report. The Navy completed an additional investigation at Site 21, allowing for complete delineation of the contaminated groundwater and its impact on the facility's stormwater sewer system. The cost of completing environmental restoration has changed significantly due to technical issues.

It was determined that an active remedy is warranted to address the levels of groundwater contamination; therefore, the SSI will be expanded to become the RI for the site. The installation obtained sufficient information from the expanded investigation at Site 21 to select a remedy without a treatability study. The installation completed the EE/CA for Site 5; however, confirmatory sampling will be continued during the implementation of the action.

**FY07 MMRP Progress**

The Navy has identified no MMRP sites at this installation.

**Plan of Action**

Plan of action items for St. Juliens Creek Annex are grouped below according to program category.

**IRP**

- Complete the RI and FS for Sites 2 and 21 in FY08.
- Complete the non-time-critical removal action for Site 5 in FY08.
- Complete the HHRA addendum for Site 5 in FY08.

**MMRP**

There are no MMRP actions scheduled for FY08 or FY09.

<b>FFID:</b>	CT121382292400	<b>Funding to Date:</b>	\$ 18.6 million
<b>Size:</b>	78 acres	<b>Est. CTC (Comp Year):</b>	\$ 28.4 million (FY 2019)
<b>Mission:</b>	Manufactured engines for heavy armor vehicles and rotary wing aircraft	<b>IRP Sites (Final RIP/RC):</b>	4 (FY2019)
<b>HRS Score:</b>	N/A	<b>MMRP Sites (Final RIP/RC):</b>	None
<b>IAG Status:</b>	None	<b>Five-Year Review Status:</b>	A 5-year review is not required for this installation.
<b>Contaminants:</b>	PCBs, asbestos, fuel-related VOCs, solvents, metals, PAHs, SVOCs		
<b>Media Affected:</b>	Groundwater, Sediment, Soil		



Stratford, Connecticut

**Progress To Date**

In July 1995, the BRAC Commission recommended closure of the Stratford Army Engine Plant. The installation closed in September 1998. Prior to closure, the installation manufactured engines. Since FY91, environmental studies at the installation have identified the following sites: transformers that contain polychlorinated biphenyls (PCBs), underground storage tanks (USTs), sludge lagoons, a fire training and explosives equipment testing area, hazardous materials and hazardous waste storage areas, and buildings constructed with asbestos-containing materials. Studies show that contaminants include PCBs, fuel-related volatile organic compounds (VOCs), solvents, metals, polyaromatic hydrocarbons (PAHs), and asbestos. Interim actions at the installation have included removal of 27 USTs, capping of 3 sludge lagoons, and removal of chromium-contaminated soil. In FY96, the installation formed a BRAC cleanup team and a Restoration Advisory Board (RAB). The community formed a local redevelopment authority to address socioeconomic issues related to closure of the installation and to develop a land reuse plan. The installation drafted a BRAC cleanup plan and updated the plan in FY97 and FY99. In FY98, the Army initiated the process for terminating the Nuclear Regulatory Commission license by preparing decommissioning plans and conducting radiological surveys, and completed decommissioning in FY99. The installation implemented a community relations plan, which included the establishment of an on-site public information repository.

The Army completed an inventory of closed, transferred, and transferring ranges and sites with unexploded ordnance, discarded military munitions, or munitions constituents in FY02; no Military Munitions Response Sites (MMRP) were found. The cleanup progress at Stratford Army Engine Plant for FY03 through FY06 is detailed below.

In FY03, the installation submitted the draft final remedial investigation (RI) to regulators and the RAB for review. The installation worked with the State to develop feasibility study (FS) alternatives.

In FY04, the installation completed the RI sampling and submitted the final RI to regulators. The installation initiated

compliance sampling of subsurface soil gas. Additionally, the installation drafted a FS.

In FY05, the installation submitted the draft FS and proposed plan (PP). The PP outlines the preferred remedial alternatives to address the unacceptable risks associated with soil, soil vapor, and groundwater.

In FY06, the installation addressed comments from regulators on the FS and PP. The installation also addressed regulatory concerns regarding the ecological risk assessment within the RI.

**FY07 IRP Progress**

Stratford Army Engine Plant is in the early transfer process to private ownership.

Regulatory issues delayed the RI, FS, PP, and Record of Decision (ROD).

**FY07 MMRP Progress**

The Army has identified no Military Munitions Response Program (MMRP) sites at this installation.

**Plan of Action**

Plan of action items for Stratford Army Engine Plant are grouped below according to program category.

**IRP**

- Complete RI, FS, PP, and ROD in FY09.

**MMRP**

There are no MMRP actions scheduled for FY08 or FY09.

<b>FFID:</b>	OK657172439100	<b>Est. CTC (Comp Year):</b>	\$ 65.6 million (FY 2023)
<b>Size:</b>	5,041 acres	<b>IRP Sites (Final RIP/RC):</b>	40 (FY2009)
<b>Mission:</b>	Repair aircraft, weapons, and engines	<b>MMRP Sites (Final RIP/RC):</b>	None
<b>HRS Score:</b>	42.24; placed on NPL in July 1987	<b>Five-Year Review Status:</b>	Completed and planned
<b>IAG Status:</b>	FFA signed in December 1988		
<b>Contaminants:</b>	Organic solvents, heavy metals, petroleum, VOCs, SVOCs		
<b>Media Affected:</b>	Groundwater, Surface Water, Sediment, Soil		
<b>Funding to Date:</b>	\$ 212.3 million		



Oklahoma City, Oklahoma

### Progress To Date

The mission of Tinker Air Force Base (AFB) is to repair aircraft, weapons, and engines. EPA placed the installation on the NPL in July 1987 and the Air Force signed a federal facility agreement (FFA) in December 1988. The NPL designation consists of the Building 3001 and Soldier Creek sites. In 2005, the BRAC Commission recommended Tinker AFB for realignment. Environmental studies at Tinker AFB revealed a 220-acre contaminant plume in the upper aquifer at Soldier Creek and Building 3001. Additional sites at Tinker AFB include landfills, underground storage tanks (USTs), waste pits, fire training areas, spill sites, and low-level radioactive waste sites. The installation has implemented numerous interim actions, including removal of contaminated soil and USTs, and installation of landfill caps, free product recovery systems, bioventing systems, a biostripping system, and a solidification and stabilization system. The installation formed its Restoration Advisory Board in FY94. Tinker AFB completed 5-year reviews in FY99, FY03, and FY07.

Records of Decision (RODs) have been signed for Building 3001 and Soldier Creek. In FY05, the Air Force updated its Military Munitions Response Program (MMRP) inventory. No MMRP sites were identified at this installation during the inventory development. The cleanup progress for Tinker AFB for FY03 through FY06 is detailed below.

In FY03, Tinker AFB completed the risk assessment necessary to achieve site closeout for Industrial Waste Pit 2 (Site WP 19). The second 5-year review for Building 3001 and Soldier Creek was completed. The Northwest Groundwater Management Unit (CG 37) feasibility study was completed and recommended monitored natural attenuation as the remedy.

In FY04, the installation achieved site closeout status for the Soldier Creek Sediment and Surface Water operable unit (OU) (OT 02). A deep permeable reactive barrier was installed to further protect the neighborhood near CG 38 (Southwest Groundwater Management Unit). The decision document (DD) was completed and remedy in place (RIP) was achieved for the Industrial Water Treatment Plant soils site (OT 34).

In FY05, Tinker AFB completed the DD and achieved RIP/response complete status for ST 08 (four fuel sites). The

installation also achieved RIP for CG 38. The Air Force updated its MMRP inventory. No MMRP sites were identified at this installation during the inventory development.

In FY06, Tinker AFB completed the study phases and DDs, and achieved RIP for the East Groundwater Management Unit (CG 39) and the Gator Facility Groundwater Management Unit (CG 40).

### FY07 IRP Progress

Tinker AFB signed the Solider Creek Off-base Groundwater (SCOBGW) OT 05/OU 3 ROD and completed the third 5-year review for Building 3001 and Solider Creek. The cost of completing environmental restoration has changed significantly due to changes in estimating criteria.

Technical issues delayed the DD for WP 18.

### FY07 MMRP Progress

The Air Force initiated a preliminary assessment (PA) at this installation.

### Plan of Action

Plan of action items for Tinker Air Force Base are grouped below according to program category.

#### IRP

- Achieve RIP at SCOBGW OT 05 in FY08.
- Complete all remaining study phases and DDs to acheive installationwide RIP in FY08.
- Complete DD for WP 18 in FY08.

#### MMRP

- Complete PA in FY08.

<b>FFID:</b>	PA321382089200	<b>Funding to Date:</b>	\$ 15.5 million
<b>Size:</b>	1,296 acres	<b>Est. CTC (Comp Year):</b>	\$ 3.2 million (FY 2014)
<b>Mission:</b>	Provide logistics for communications and electronics equipment	<b>IRP Sites (Final RIP/RC):</b>	67 (FY2005)
<b>HRS Score:</b>	37.93; placed on NPL in August 1990	<b>MMRP Sites (Final RIP/RC):</b>	6 (FY2014)
<b>IAG Status:</b>	IAG signed in September 1990	<b>Five-Year Review Status:</b>	Completed and planned
<b>Contaminants:</b>	Heavy metals, solvents, VOCs, PCBs, POLs, UXO		
<b>Media Affected:</b>	Groundwater, Surface Water, Sediment, Soil		



Tobyhanna, Pennsylvania

**Progress To Date**

Tobyhanna Army Depot (AD) provides support for communications and electronics equipment. Environmental studies at Tobyhanna AD began in FY80. Identified sites include landfills, a disposal pit, underground storage tanks, burn areas, drum staging areas, a surface disposal area, a waste treatment plant, a spill site area, an unexploded ordnance (UXO) area, and a fire fighting training area. The most prominent sites are the burn areas and a drum staging area, which constitute Operable Unit (OU) 1. Contamination at these sites included volatile organic compounds (VOCs), solvents, and heavy metals in groundwater; solvents, metals, polychlorinated biphenyls (PCBs), and petroleum/oil/lubricants (POLs) in surface water and sediment; and solvents, metals, PCBs, POLs, and UXO in soil. EPA placed the installation on the NPL in August 1990. An interagency agreement (IAG) was signed in September 1990. In 2005, the BRAC Commission recommended Tobyhanna AD for realignment. During FY95, the installation formed a Restoration Advisory Board, followed by a new community relations plan in FY98. In FY99, the installation completed a closeout document for 18 no further action sites. The Army completed 5-year reviews in FY02 and FY07.

Environmental studies have identified 65 areas of concern (AOCs) covering the entire installation; EPA partially delisted 62 of the AOCs from the NPL in FY01. The installation has completed six Records of Decision, including five in FY00. In FY02, the Army completed the closed, transferred, and transferring (CTT) ranges and sites inventory, and Military Munitions Response Program (MMRP) sites were found. The cleanup progress at Tobyhanna AD from FY03 through FY06 is detailed below.

In FY03, the installation continued groundwater monitoring at OUs 1 and 5. The Army initiated an installationwide MMRP site inspection (SI). The installation provided information regarding the UXO area and a former machine gun range (TBAD 029) to the Army Environmental Center for inclusion in the CTT range inventory.

In FY04, the installation continued groundwater monitoring at OUs 1 and 5. The installation maintained the UXO fence and

warning signs. The Army performed the SI fieldwork for all eligible MMRP sites.

In FY05, the installation continued groundwater monitoring at OUs 1 and 5. The Army issued the final SI MMRP report. The installation repaired the existing UXO fence at OU 4 and fenced an additional 45 acres based on the recommendations in the SI report. The Army continued to control access to OU 4.

In FY06, the Army continued groundwater monitoring at OUs 1 and 5. The installation maintained the UXO fence and warning signs, and continued to control access at OU 4.

**FY07 IRP Progress**

Tobyhanna AD completed a 5-year review and continued groundwater monitoring at OUs 1 and 5. The cost of completing environmental restoration has changed significantly due to technical issues.

**FY07 MMRP Progress**

The installation maintained the UXO fence and warning signs, and continued to control access at OU 4.

**Plan of Action**

Plan of action items for Tobyhanna Army Depot are grouped below according to program category.

**IRP**

- Continue groundwater monitoring at OUs 1 and 5 in FY08.

**MMRP**

- Maintain UXO fence and warning signs and continue to control access at OU 4 in FY08.

<b>FFID:</b>	UT821382089400	<b>Funding to Date:</b>	\$ 118.3 million
<b>Size:</b>	24,732 acres	<b>Est. CTC (Comp Year):</b>	\$ 58.1 million (FY 2032)
<b>Mission:</b>	Store and demilitarize munitions	<b>IRP Sites (Final RIP/RC):</b>	62 (FY2010)
<b>HRS Score:</b>	53.95; placed on NPL in August 1990	<b>MMRP Sites (Final RIP/RC):</b>	5 (FY2018)
<b>IAG Status:</b>	FFA signed in September 1991	<b>Five-Year Review Status:</b>	Completed
<b>Contaminants:</b>	Metals, VOCs, SVOCs, propellants, explosives, petroleum hydrocarbons, PCBs, solvents		
<b>Media Affected:</b>	Groundwater and Soil		



Tooele, Utah

**Progress To Date**

EPA placed Tooele Army Depot (AD) on the NPL in August 1990. The Army and EPA signed a federal facility agreement (FFA) in September 1991. The CERCLA FFA and a RCRA corrective action permit regulate Tooele AD’s environmental restoration program. In 1993, the BRAC Commission recommended realignment of the Tooele AD maintenance missions with the installation retaining its conventional ammunition storage and demilitarization mission. Identified sites at Tooele AD include open burning and open detonation areas, ammunition demilitarization facilities, landfills, firing ranges, industrial sites, underground storage tanks, surface impoundments, and drain fields. Organic solvents and metals are the primary site contaminants. During FY94, the installation formed a BRAC cleanup team and a Restoration Advisory Board. The installation conducted a 5-year review for all sites in FY02.

To date, the Army has completed three Records of Decision (RODs) that address six operable units (OUs). The installation transferred 41 acres to the Tooele City Redevelopment Agency in FY96 and the remaining excess BRAC property (1,663 acres) in FY99. The Army retained 23,610 acres for the conventional ammunition mission. In FY03, the Army completed an inventory of operational, closed, transferred, and transferring (CTT) ranges and sites with unexploded ordnance (UXO), discarded military munitions (DMM), or munitions constituents (MC). The inventory identified Military Munitions Response Program (MMRP) sites. Cleanup progress at Tooele AD for FY03 through FY06 is detailed below.

In FY03, Tooele AD completed all required corrective measures at 17 RCRA sites. It also initiated corrective measures at two RCRA sites. EPA approved and signed the ROD for OU 4, and the Army implemented all required remedies. The installation completed corrective measures study (CMS) for four sites, and initiated decision documents (DDs) for these sites. The Army completed an inventory of CTT ranges and sites with UXO, DMM, or MC at Tooele AD. The inventory identified five MMRP sites within the active portion of this installation. The Army also developed cost estimates for addressing the CTT ranges and sites with UXO, DMM, or MC.

In FY04, the installation signed DDs and initiated corrective measures at three sites. The Army signed a ROD for OU 8 and initiated remedial action at Sites 6 (Old Burn Area) and 8 (Small Arms Firing Range). The installation initiated an alternative measure evaluation of ground water treatment technologies for Solid Waste Management Unit (SWMU) 2 (Industrial Waste Lagoon), and began field activities for the Phase II groundwater and vadose investigation of SWMU 58 (the BRAC industrial area and impacted off-site property). The Army implemented a groundwater management area monitoring program as an interim action for off-site groundwater contamination originating from the BRAC industrial area.

In FY05, the installation consolidated and capped lead-contaminated soil at the former Bomb Washout Facility, SWMU 42, completing corrective measures at the site. The installation completed corrective measures consisting of soil and vegetation improvements at the former Sanitary Landfill, SWMUs 12 and 15. The installation completed planned soil stabilization and solidification of lead-contaminated soil at the former Small Arms Firing Range. Additionally, the installation continued the evaluation of alternative corrective measures for management of groundwater contamination at the former Industrial Waste Lagoon, SWMU 2, and the investigation of groundwater contamination and source areas at SWMU 58.

In FY06, the installation continued data collection to support an alternative corrective measure at SWMU 2, along with additional characterization of groundwater contaminant source areas located on SWMU 58. The installation completed an evaluation of alternative remedies for addressing lead-contaminated soil at SWMU 6 and submitted the proposed alternative remedy for regulatory review. The installation completed a historical records review and prepared a project work plan for conducting a site inspection (SI) of identified MMRP sites.

**FY07 IRP Progress**

Tooele AD completed site recharacterization and reevaluation of the proposed corrective measures at SWMU 56 and received regulatory approval. The installation completed required fieldwork for the evaluation of alternative corrective measures for groundwater at SWMU 2. The Army completed field activities required as part of a RCRA facility investigation at

SWMU 58. A CMS work plan identifying potential corrective measures to be evaluated for the site will be included as part of the RCRA facility investigation report. The installation completed construction of the soil composting facilities and initiated the treatment process for explosive contaminated soil at SWMU 10.

**FY07 MMRP Progress**

The installation completed SI field activities for identified MMRP sites. A draft SI report of findings was prepared and presented to the program stakeholders for review and comment.

**Plan of Action**

Plan of action items for Tooele Army Depot are grouped below according to program category.

**IRP**

- Implement alternative remedy at SWMU 6 in FY08.
- Complete implementation of corrective measures at SWMU 56 in FY08.
- Complete evaluation of corrective measures for SWMU 58 in FY08.
- Propose alternative corrective measures for SWMU 2 in FY08.
- Continue operation of the soil composting process at SWMU 10 in FY08.

**MMRP**

- Finalize SI report of findings and obtain stakeholder approval in FY08.

<b>FFID:</b>	CA957182457500	<b>Media Affected:</b>	Groundwater, Surface Water, Sediment, Soil
<b>Size:</b>	6,383 acres	<b>Funding to Date:</b>	\$ 100.4 million
<b>Mission:</b>	Provide air refueling and strategic airlift services for troops, cargo, and equipment	<b>Est. CTC (Comp Year):</b>	\$ 51.9 million (FY 2036)
<b>HRS Score:</b>	29.49; placed on NPL in November 1989	<b>IRP Sites (Final RIP/RC):</b>	42 (FY2011)
<b>IAG Status:</b>	FFA signed in September 1990; amended May 1993, October 1995, July 1996, November 1997, July 1998, December 2003, February 2005	<b>MMRP Sites (Final RIP/RC):</b>	1 (FY2013)
<b>Contaminants:</b>	VOCs, heavy metals, POLs, PAHs, SVOCs	<b>Five-Year Review Status:</b>	Completed and planned



Solano County, California

**Progress To Date**

Travis Air Force Base (AFB) was established in 1943. Historical activities at the installation resulted in the release of metals, pesticides, fuels, solvents, and petroleum/oils/lubricants (POLs), which have migrated into the soil, sediment, surface water, and groundwater. Contaminated sites include old landfills, a closed sewage treatment plant, four fire training areas, disposal pits, spill areas, a storm sewage drainage system, a pesticide disposal site, and a low-level radioactive waste burial site. Interim actions at the installation have included the removal of 27 underground storage tanks and the installation of groundwater treatment systems to address the primary groundwater chemical of concern, trichloroethylene (TCE). EPA placed the installation on the NPL in November 1989. The installation signed a federal facility agreement (FFA) in September 1990 and amended the document schedule in May 1993, October 1995, July 1996, November 1997, July 1998, December 2003, and February 2005. In FY95, the installation formed a Restoration Advisory Board (RAB) to provide for public involvement in the installation's cleanup decision-making process. The installation received technical assistance for public participation funding in FY99.

To facilitate remedial investigations, the installation was initially divided into four operable units (OUs), which were later consolidated by similar contaminants into two OUs. To date, interim Records of Decision (RODs) have been signed for groundwater in the North, East, and West Industrial OU (NEWIOU) and for soil and groundwater in the West/Annexes/Basewide OU (WABOU). The cleanup progress at Travis AFB for FY03 through FY06 is detailed below.

In FY03, a land access agreement was established with an adjacent landowner, allowing interim remedial action (RA) construction at the second of three off-site groundwater plumes. The installation completed RAs at six soil sites in the WABOU and conducted a 5-year review of the basewide interim groundwater actions.

In FY04, the installation developed a pre-draft NEWIOU soil, sediment, and surface water ROD for coordination with HQ Air Mobility Command/Air Staff and completed one of 12 planned remedial designs (RDs) for soil sites in the NEWIOU. The installation completed an interim RA operation at one site,

installing conveyance piping and solar power to two extraction wells, and began the installation of three new extraction wells at Site FT 004 to enhance removal of TCE.

In FY05, Travis AFB completed the risk assessment process for the NEWIOU sites and issued the draft NEWIOU soil, sediment, and surface water ROD. The installation completed a draft final RD at one NEWIOU soil site and awarded a contract for RAs at five NEWIOU soil sites (SD 001, FT 003, FT 005, LF 007, and SD 033). Clean soil from on-site construction projects was stockpiled to use as clean backfill at excavated sites. The installation held a response to comments meeting to discuss regulatory agency comments on the draft NEWIOU soil, sediment and surface water ROD, and developed a revised draft document. The Air Force began preliminary assessments (PAs) for all identified Military Munitions Response Program (MMRP) sites. A public tour of on-base sites was held during the summer and the RAB voted to meet semi-annually based on the installation's cleanup progress.

In FY06, Travis AFB finalized and issued the NEWIOU soil, sediment, and surface water ROD with agreement from the regulatory agencies on the selected remedies for 18 sites. The installation awarded the RA contract for soil Sites FT 004 and SD 045. The Air Force installed a new dual phase extraction well at the DP 039 source area and three additional monitoring wells downgradient in the plume. Additionally, the installation performed repairs on the corrective action management unit to demonstrate the capability for on-site storage of soil from Installation Restoration Program (IRP) sites. The installation completed the engineered tree planting study at DP 039. The installation completed PAs at all identified MMRP sites. The restoration staff participated in an Ecology Summer Camp, providing an outdoor discussion on land restoration, wetland preservation, and career exploration to students at a local middle school. The installation continued to hold two partnering meetings per month and provided a tour to 10 members of the California Regional Water Quality Control Board. Over 140 attendees from all over the country participated in Air Staff Environmental Restoration, ROD writing, and Remedial Action Cost Engineering Requirements training hosted by the installation.

**FY07 IRP Progress**

Travis AFB developed the remaining soil remedial designs, quality program plans, and remedial action workplans. The installation completed soil RAs at SD 045, removing over 4,400 cubic yards of contaminated soil and restoring the site to residential cleanup levels. The base began soil RAs at FTs 003 and 004. The Air Force held discussions with regulatory agencies to focus on anticipated groundwater site status and expected efforts to achieve remedy in place (RIP) at all sites. The installation began developing a statement of objectives for a performance-based contract (PBC) that will bring the remaining 19 groundwater sites to RIP. The cost of completing environmental restoration has changed significantly due to changes in estimating criteria.

**FY07 MMRP Progress**

Travis AFB finalized the MMRP PAs.

**Plan of Action**

Plan of action items for Travis Air Force Base are grouped below according to program category.

**IRP**

- Continue ongoing RA-operation and monitoring efforts for groundwater and develop the basewide groundwater ROD in FY08.
- Complete RAs at SD 001 and 033, FT 005, and LF 007 in FY08.
- Develop statement of objectives and award PBC to bring the remaining 19 groundwater sites to RIP in FY08-FY09.
- Conduct a basewide 5-year review in FY08.

**MMRP**

- Complete site inspections in FY08.

<b>FFID:</b>	CA917002333000	<b>Funding to Date:</b>	\$ 127.9 million
<b>Size:</b>	1,075 acres	<b>Est. CTC (Comp Year):</b>	\$ 26.4 million (FY 2008)
<b>Mission:</b>	Provide services and materials to support units of operating forces and shore activities	<b>IRP Sites (Final RIP/RC):</b>	35 (FY2012)
<b>HRS Score:</b>	N/A	<b>MMRP Sites (Final RIP/RC):</b>	None
<b>IAG Status:</b>	FFA signed in September 1992	<b>Five-Year Review Status:</b>	A 5-year review is not required for this installation.
<b>Contaminants:</b>	Petroleum hydrocarbons, VOCs, SVOCs, chlorinated solvents, metals, pesticides, PCBs, explosives, propellants		
<b>Media Affected:</b>	Groundwater, Surface Water, Sediment, Soil		



Treasure Island, California

**Progress To Date**

In July 1993, the BRAC Commission recommended closure of Treasure Island Naval Station (NS) with relocation of the Naval Reserve Center and the Naval Technical Training Center. Operational closure was completed in September 1997. Contamination is largely the result of migration of petroleum products from fueling operation areas and disposal of waste materials. Sites include former fire training areas, a landfill, a former dry cleaning facility, an old bunker area, fuel farms, a service station, and a waterline replacement area. In FY92, the installation established two information repositories and an administrative record, and completed a community relations plan, which was updated in FY02. The installation signed a federal facility agreement (FFA) in September 1992. The technical review committee was converted to a Restoration Advisory Board (RAB) in FY94. The RAB received a technical assistance for public participation grant in FY99 for review of a remedial investigation (RI).

The installation has signed three Records of Decision (RODs) for Sites 9, 10 and 13. In FY02, the Navy completed an inventory of all Military Munitions Response Program (MMRP) sites. The cleanup progress at Treasure Island NS for FY03 through FY06 is detailed below.

In FY03, the installation established petroleum remedies for 95 percent of sites. The installation completed the draft documentation for the transfer of all property not impacted by CERCLA or by petroleum sites. The installation submitted an engineering evaluation and cost analysis (EE/CA) for a removal action in portions of Site 12 for review. The installation completed additional soil sampling for Site 12. The installation installed a pilot study for in situ remediation at Site 24.

In FY04, the installation achieved the remedy in place milestone for all petroleum site. The Navy initiated a historical radiological assessment (HRA). Additionally, the installation initiated petroleum remedies for the remaining 5 percent of sites. Naval Sites 32 (Former Training Area) and 33 (Waterline Replacement Area) were added to the Installation Restoration Program (IRP).

In FY05, Treasure Island NS completed regulatory concurrence for no further action (NFA) at four petroleum sites. The Navy

completed the RI reports for Sites 9, 10, and 30. The installation signed an NFA ROD for Site 13 offshore sediments. The installation also installed a groundwater pilot study for in situ bioremediation at Site 21 and completed a groundwater investigation at Site 33.

In FY06, Treasure Island NS obtained regulatory concurrence for closure of Petroleum pipeline D 1B groundwater, and Installation Restoration Site 7. The Navy completed No Action (NA) Proposed Plans (PPs) for Sites 9 and 10. The basewide HRA was completed and a radiological survey in Building 233 was conducted. The installation also completed the supplemental Environmental Baseline Survey, and signed findings of suitability to transfer for Treasure Island and Yerba Buena Island.

**FY07 IRP Progress**

Treasure Island NS completed the Site 21 RI report, and the feasibility studies (FSs) for Sites 30 and 31. The installation completed the screening level ecological level risk assessment. The Navy completed the Site 12 EE/CA and action memo. Treasure Island NS signed NA RODs for Sites 9 and 10. The cost of completing environmental restoration has changed significantly due to changes in estimating criteria.

Regulatory issues delayed closure for Sites 6 and 25. Technical issues delayed the final status surveys for four radiological sites, and the RI reports for Sites 6, 8, 11, 12, 24, 28, 29, 32, and 33. Regulatory issues delayed the FS for offshore Site 27 and onshore Sites 21, 24, and 32. The NA PPs for Sites 8, 28, and 29 were also delayed due to technical issues; a decision on the NA PPs was deferred until completion of the RI reports. Regulatory issues delayed draft PPs for Sites 30 and 31. Technical issues delayed the PP for Site 32, and the Site 12 groundwater pilot study. The Site 12 removal action is underway; however, technical issues delayed completion.

**FY07 MMRP Progress**

The Navy has identified no MMRP sites at this installation.

**Plan of Action**

Plan of action items for Treasure Island Naval Station are grouped below according to program category.

**IRP**

- Obtain regulatory closure for Petroleum Sites 6 and 25 in FY08.
- Complete and obtain regulatory concurrence with final radiological status surveys for four sites in FY08.
- Complete combined RI/focused FS for Site 24 in FY08.
- Complete FSs for Sites 21, 27, and 32 in FY08.
- Complete Site 12 groundwater pilot study and removal action in FY08.
- Complete RI reports for Sites 6, 8, 11, 12, 28, 29, 32, and 33 in FY08-FY09.
- Complete PPs for Sites 8, 28, 29, 30, 31, and 32 in FY08-FY09.

**MMRP**

There are no MMRP actions scheduled for FY08 or FY09.

<b>FFID:</b>	NJ217002269500	<b>Est. CTC (Comp Year):</b>	\$ 19.0 million (FY 2036)
<b>Size:</b>	529 acres	<b>IRP Sites (Final RIP/RC):</b>	11 (FY2000)
<b>Mission:</b>	Test engine systems and components	<b>MMRP Sites (Final RIP/RC):</b>	None
<b>HRS Score:</b>	N/A	<b>Five-Year Review Status:</b>	Completed
<b>IAG Status:</b>	None		
<b>Contaminants:</b>	Freon, mercury, solvents, fuels, VOCs, SVOCs, metals, TCE		
<b>Media Affected:</b>	Groundwater and Soil		
<b>Funding to Date:</b>	\$ 25.8 million		



Trenton, New Jersey

**Progress To Date**

In July 1993, the BRAC Commission recommended closure of Trenton Naval Air Warfare Center (NAWC) Aircraft Division. Operations were transferred to the Arnold Engineering Development Center and the Patuxent River Naval Air Station in December 1998, which was the date of operational closure. Contamination at the installation resulted from various fuels used to operate engines during tests and from trichloroethylene (TCE), ethylene glycol, and freon used to cool the air entering the engines. Residues of fuels and solvents were detected in groundwater and soil. Site types include underground storage tanks (USTs), disposal areas, and spill sites. A technical review committee was formed in FY91 and converted to a Restoration Advisory Board in FY93, which was formally disbanded in FY01. The Environmental Baseline Survey (EBS) Phase II report was finalized, and remediation was completed at the remaining EBS areas of concern. In FY04, the installation completed a 5-year review.

Installation Restoration Program (IRP) sites have been identified at this installation. In FY02, the Navy completed an inventory of all Military Munitions Response Program (MMRP) sites. The cleanup progress at Trenton NAWC Aircraft Division for FY03 through FY06 is detailed below.

In FY03, Trenton NAWC continued operation and maintenance (O&M) of the groundwater treatment system.

In FY04, O&M of the groundwater treatment system continued and the installation completed a 5-year review of the remedy.

In FY05, O&M of the groundwater treatment system continued and the installation conducted a biannual review per state regulations. A work plan for a bioaugmentation pilot study for groundwater was completed and fieldwork began.

In FY06, Trenton NAWC Aircraft Division continued O&M of the groundwater treatment system.

**FY07 IRP Progress**

Trenton NAWC completed the bioaugmentation pilot study and report. The installation continued O&M of the groundwater treatment system. The Navy also completed the state biennial certification. The cost of completing environmental restoration has changed significantly due to changes in estimating criteria.

**FY07 MMRP Progress**

The Navy has identified no MMRP sites at this installation.

**Plan of Action**

Plan of action items for Trenton Naval Air Warfare Center Aircraft Division are grouped below according to program category.

**IRP**

- Ensure relocation of treatment plant and extraction wells meet regulatory and operational requirements in FY08.
- Continue O&M of groundwater treatment system in FY08-FY09.
- Prepare 5-year review and State Biennial Certification in FY09.

**MMRP**

There are no MMRP actions scheduled for FY08 or FY09.

<b>FFID:</b>	AZ957282593400	<b>Est. CTC (Comp Year):</b>	\$ 10.2 million (FY 2017)
<b>Size:</b>	84 acres	<b>IRP Sites (Final RIP/RC):</b>	8 (FY1997)
<b>Mission:</b>	Provide Air National Guard training	<b>MMRP Sites (Final RIP/RC):</b>	None
<b>HRS Score:</b>	57.86; placed on NPL in September 1983	<b>Five-Year Review Status:</b>	Completed
<b>IAG Status:</b>	FFA signed in October 1994		
<b>Contaminants:</b>	POLs, petroleum hydrocarbons, TCE, chromium		
<b>Media Affected:</b>	Groundwater and Soil		
<b>Funding to Date:</b>	\$ 14.4 million		



Tucson, Arizona

**Progress To Date**

The Air National Guard (ANG) base at the Tucson International Airport (IAP) provides fighter pilot training and is home to the 162nd Fighter Wing. The installation is part of the Tucson International Airport Area (TIAA), which EPA placed on the NPL in September 1983. In addition to the ANG base, the TIAA (covering approximately 10 square miles) includes airport property owned by the City of Tucson, Air Force Plant 44 (AFP 44), and adjacent Indian reservation property and several residential areas in the Cities of Tucson and South Tucson. The National Guard Bureau signed a federal facility agreement (FFA) for the ANG property in October 1994. Only restoration activities for this installation and AFP 44 activities are funded through the Environmental Restoration Account. Sites identified at this installation include fire training areas, solvent dumping areas, storm drainage discharge areas, the old wash rack area, petroleum/oil/lubricant (POL) areas, and spill areas. Waste disposal and spill sites have had the greatest effect on the environment. The principal contaminant is trichloroethylene (TCE) in groundwater. Tetrachloroethylene and chromium also have affected groundwater to a lesser extent and total petroleum hydrocarbons have been detected in soil at the installation. A Restoration Advisory Board was formed in FY95. To aid in environmental cleanup, the installation has established successful partnerships with citizens and regulators through the Unified Community Advisory Board (UCAB). In FY03, a 5-year review was completed.

One Record of Decision has been completed for contaminated cleanup. The Air Force updated its Military Munitions Response Program (MMRP) inventory. The cleanup progress at Tucson IAP for FY03 through FY06 is detailed below.

In FY03, Tucson IAP continued a partnership with EPA Region 9 and the Arizona Department of Environmental Quality (ADEQ). Operation of the groundwater extraction and treatment system continued, as well as participation in the UCAB. The Air Force completed a 5-year review.

In FY04, the installation continued to partner with EPA Region 9 and ADEQ, and continued participation in the UCAB. Operation of the groundwater extraction and treatment system continued.

In FY05, Tucson IAP continued operating the groundwater extraction treatment and recharge system. The installation continued partnering with EPA and ADEQ, and participated in the UCAB. The Air Force updated its MMRP inventory. No MMRP sites were identified at this installation during the inventory.

In FY06, Tucson IAP continued operating the groundwater extraction treatment and recharge system, and made adjustments to enhance the system's operation. EPA and ADEQ concurred that the system is effectively containing contamination and preventing its spread beyond the installation's property line. ANG maintained its Defense and State Memorandum of Agreement partnership with ADEQ, and partnered with the Air Force Center for Environmental Excellence (AFCEE) Regional Environmental Office (REO) to facilitate relations between ANG and the regulators. The installation continued participation in UCAB and has agreed to reduce UCAB meetings from bi-monthly to quarterly.

**FY07 IRP Progress**

Tucson IAP's ANG continued operating the groundwater extraction treatment and recharge system (GWETRS) and continued partnering with EPA and ADEQ. The installation partnered with the AFCEE REO in pursuit of a West Plume B source. Three additional monitoring well-pairs were installed and sampled at the northwest edge of the TCE plume. The cost of completing environmental restoration has changed significantly due to changes in estimating criteria.

A remedial process optimization (RPO) scoping visit was postponed due to technical issues.

Tucson IAP participated in UCAB and Tech Exchange meetings.

**FY07 MMRP Progress**

The Air Force has identified no MMRP sites at this installation.

**Plan of Action**

Plan of action items for Tucson International Airport are grouped below according to program category.

**IRP**

- Continue operation of GWETRS system in FY08.
- Continue partnering with EPA Region 9, ADEQ, and the UCAB in FY08.
- Conduct RPO scoping visit in FY08.
- Conduct basewide groundwater modeling in FY08.
- Install additional monitoring well-pairs in northwest edge of plume in FY08.

**MMRP**

- Conduct historical records review in FY08.

<b>FFID:</b>	CA917302478300	<b>Funding to Date:</b>	\$ 64.8 million
<b>Size:</b>	1,603 acres	<b>Est. CTC (Comp Year):</b>	\$ 26.0 million (FY 2041)
<b>Mission:</b>	Supported operations of the Third Marine Aircraft Wing	<b>IRP Sites (Final RIP/RC):</b>	12 (FY2011)
<b>HRS Score:</b>	N/A	<b>MMRP Sites (Final RIP/RC):</b>	None
<b>IAG Status:</b>	FFA signed in August 1999	<b>Five-Year Review Status:</b>	Completed and Planned
<b>Contaminants:</b>	MTBE, petroleum hydrocarbons, pentachlorophenol, naphthalene, BTEX, TCP, SVOCs, metals, dichloroethane, dichloroethene, TCE, VOCs		
<b>Media Affected:</b>	Groundwater and Soil		



Tustin, California

**Progress To Date**

In July 1991, the BRAC Commission recommended closure of Tustin Marine Corps Air Station (MCAS) with retention of the family housing and related personnel facilities to support El Toro MCAS. In FY93, El Toro MCAS was recommended for closure, which included those support facilities retained at Tustin MCAS. A Restoration Advisory Board and a BRAC cleanup team were formed in FY94. The Navy regularly updated two administrative records and two information repositories. The installation signed a federal facility agreement (FFA) in August 1999 and issued a draft CERFA basewide Environmental Baseline Survey in FY99. Tustin MCAS finalized a 5-year review at OU 3 in FY07.

Since FY85, studies have identified Installation Restoration Program (IRP) sites at the installation. To date, the installation has signed 5 Records of Decision (RODs) and transferred over 1,300 acres of property. In FY02, the Navy completed an inventory of all Military Munitions Response Program (MMRP) sites. The cleanup progress at Tustin MCAS for FY03 through FY06 is detailed below.

In FY03, the installation issued the Operable Unit (OU) 1A feasibility study (FS) supported by data from the FY02 interim action and evaluated the permanent remedy and the draft ROD, which included enhancement of the interim groundwater removal action treatment system along with a soil and groundwater hotspot removal. The installation continued operations and explored opportunities for enhancement of the UST Site 222 methyl tertiary-butyl ether (MTBE) groundwater treatment system. The installation issued the draft final version of the OU 1B ROD, which included a groundwater treatment and soil removal remedy at two sites, after modifications to incorporate the recent Navy/EPA Land Use Controls Principles and Procedures Agreement. The installation implemented the OU 3 operation and maintenance (O&M) plan/land use control implementation and certification plan and completed the operating properly and successfully (OP&S) certification. The installation completed revising the remedy strategy at Site ST 16A/B to a petroleum corrective action for polyaromatic hydrocarbons (PAHs). Tustin MCAS also completed developing the removal strategy at the arsenic AOC site in partnership with redevelopment activities by the City of Tustin. The installation

also completed sampling at several OU 4 sites to support a dual exit strategy for these low-risk sites.

In FY04, Tustin MCAS obtained OP&S concurrence for the Moffet Trenches landfill and OU 3. The installation also completed additional soil removal and treatment system enhancements at the UST Site 222 MTBE site. In addition, the installation continued development of the OU 1B remedial design (RD), completed the petroleum corrective action at Site ST 16A/B, and initiated the removal action at the arsenic AOC site. The Navy issued a draft RD for OU 1.

In FY05, Tustin MCAS completed a time-critical removal action for OU 1A and issued a final ROD/remedial action plan (RAP). The installation completed selected soil removal activities associated with the OU 1A remedial action (RA). The Navy issued the final ROD/RAP for OU 1B and completed a work plan and field activities. Long-term management (LTM) continued at OU 3. The installation issued a final No Further Action ROD/RAP for OU 4A. The installation issued an FS for OU 4B. The installation finalized the closure report for the arsenic AOC. Tustin MCAS developed and obtained concurrence from California Regional Water Quality Control Board of closure criteria for the MTBE groundwater site. The installation closed the last AOC in the compliance program.

In FY06, Tustin MCAS conducted a 5-year review at OU 3 for the continued LTM phase of a landfill cap. In addition, the installation completed soil removal activities at OUs 1A and 1B. The Navy developed a tiered closure criteria for the MTBE groundwater site.

**FY07 IRP Progress**

Tustin MCAS completed the RD/RA work plan and initiated field activities for groundwater remedial action at OUs 1A and 1B. The installation finalized a 5-year review and continued LTM at OU 3. The Navy completed and implemented a final supplemental investigation work plan to conduct additional groundwater and soil sampling at OU 4B sites. Tustin MCAS began revising the draft OU 4B FS, which will include supplemental investigation data. The installation continued remediation of the MTBE plume. Tustin MCAS completed the finding of suitability for early transfer of approximately 4.8 acres

of property. The Navy completed a final petroleum corrective action plan (PCAP) report for UST 222.

Technical issues delayed completing the draft FS, proposed plan, and public meeting for OU 4B.

**FY07 MMRP Progress**

The Navy has identified no MMRP sites at this installation.

**Plan of Action**

Plan of action items for Tustin Marine Corps Air Station are grouped below according to program category.

**IRP**

- Continue MTBE groundwater site remediation in FY08.
- Complete RA implementation activities and initiate O&M activities at OUs 1A and 1B in FY08-FY09.
- Continue LTM activities at OU 3 in FY08-FY09.
- Complete the draft FS for OU 4B in FY08-FY09.
- Complete implementation of PCAP for UST 222 in FY08-FY09.

**MMRP**

There are no MMRP actions scheduled for FY08 or FY09.

<b>FFID:</b>	MN521382090800	<b>Funding to Date:</b>	\$ 158.1 million
<b>Size:</b>	2,370 acres	<b>Est. CTC (Comp Year):</b>	\$ 27.7 million (FY 2040)
<b>Mission:</b>	Provide support to DoD tenants; formerly manufactured small-arms ammunition and projectile casings	<b>IRP Sites (Final RIP/RC):</b>	26 (FY2010)
<b>HRS Score:</b>	59.60; placed on NPL in September 1983	<b>MMRP Sites (Final RIP/RC):</b>	None
<b>IAG Status:</b>	FFA signed in August 1987	<b>Five-Year Review Status:</b>	Completed and planned
<b>Contaminants:</b>	VOCs, PCBs, heavy metals, SVOCs		
<b>Media Affected:</b>	Groundwater, Surface Water, Sediment, Soil		



Arden Hills, Minnesota

## Progress To Date

Twin Cities Army Ammunition Plant (AAP) formerly manufactured small arms ammunition and projectile casings, and supported DoD tenants. Past waste disposal practices released contaminants into soil, groundwater, and sediment. Contaminated groundwater has impacted municipal water supplies. Ammunition-related metals, volatile organic compounds (VOCs), and polychlorinated biphenyls (PCBs) are the primary soil contaminants at the installation. In September 1983, EPA placed the installation on the NPL. Twin Cities AAP established a technical review committee in 1985 and a Restoration Advisory Board (RAB) in FY96. From FY86 to FY93, the Army installed soil and groundwater extraction and treatment systems. The installation constructed a boundary groundwater containment system to contain and treat VOC-contaminated groundwater at the installation's southwest boundary. The Army provided a groundwater treatment system for the City of New Brighton and a municipal water supply hookup at Lowry Grove Trailer Park. The Army, State of Minnesota, and EPA signed a federal facility agreement (FFA) in 1987. In FY95, the installation completed an unexploded ordnance (UXO) sweep in support of the CERCLA site cleanups. The Army procured a technical assistance for public participation contract to support the RAB in FY99. The Army completed 5-year reviews of Operable Units (OUs) 1, 2, and 3 in FY99 and FY04.

The installation grouped sites, including former landfills, burning and burial grounds, ammunition testing and disposal sites, industrial operations buildings, and sewer system discharge areas, into three OUs. To date, the Army has signed three Records of Decision (RODs). In FY03, the Army conducted an inventory of closed, transferred, and transferring (CTT) ranges and sites with UXO, discarded military munitions, or munitions constituents; no Military Munitions Response Sites (MMRP) were found. The cleanup progress at Twin Cities AAP for FY03 through FY06 is detailed below.

In FY03, the Army completed remedial action construction (RA-C) fieldwork at Site A (VOC soils), Site D (metal soils), and the removal of the corrective action management unit (CAMU), and submitted the respective closeout reports. The regulators approved the closeout reports for Site 129-3 and Site 129-15, with the exception of land use control (LUC) requirements. The

regulators approved the reconfiguration plan for the Twin Cities AAP groundwater recovery system. The installation completed the site inspection (SI) fieldwork for both the 135 and 535 Primer/Tracer Areas. RA-C fieldwork began to upgrade the cover for the Site G dump and to place a cover at the 1900 Yard Range. At Site C, the Army obtained approval for a work plan and performed additional characterization work. The Army commissioned a Phase I/Phase II environmental site assessment to support future property transfers. The Army conducted an inventory of CTT ranges and sites with UXO, discarded military munitions, or munitions constituents.

In FY04, the installation completed the cover construction at Site G. The regulators approved the closeout reports for Site A (1945 Trench) and Site D, both with the exception of LUCs, the closeout report for the CAMU (with no LUCs), and the second 5-year review.

In FY05, Twin Cities AAP obtained regulatory approval for the Tier II ecological risk assessment for various water bodies, and the Army initiated a feasibility study (FS) to evaluate remedies. Regulators also approved the closeout report for Site G (except LUCs), the SI reports for the 135 and 535 Primer/Tracer Areas, and an evaluation report for the vapor intrusion pathway off the installation.

In FY06, Twin Cities AAP received regulatory approval for an alternatives analysis addressing revised and new remedies for Site C. A ROD Amendment was signed for OU 1, resolving disagreements over groundwater containment and the need for further action deeper in the aquifer. Additionally, the Army signed another ROD Amendment for OU 3, documenting the final decision to turn off the extraction well. Contaminated sediment was removed from a ditch near the 135 Primer/Tracer Area, and the closeout report was approved by the regulators. With the exception of LUCs, the regulators also approved a closeout report for construction of a cover over contaminated soil at the 1900 Yard Range of the Outdoor Firing Range.

## FY07 IRP Progress

The installation resolved LUC issues for Site C 2 and signed a ROD Amendment addressing remedies for soil, sediment, surface water, and groundwater. This enabled the fieldwork to be completed at this site. The Army continued groundwater

operation and maintenance. The installation prepared a work plan for the engineering evaluation and cost analysis (EE/CA) at the 135 and 535 Primer/Tracer Areas. The installation also prepared an EE/CA work plan for Building 102 and performed sampling at the site. The Army also achieved progress on the aquatic sites FS after defining Trustee and Technical Working Group roles.

## FY07 MMRP Progress

The Army has identified no MMRP sites at this installation.

## Plan of Action

Plan of action items for Twin Cities Army Ammunition Plant are grouped below according to program category.

### IRP

- Complete a ROD Amendment addressing LUCs and remedy changes implemented for various OU 2 sites in FY08.
- Obtain approval for LUC remedial design plans and closeout reports for soil sites in FY08.
- Complete EE/CA for 135 Primer/Tracer Areas and Building 102 in FY09.
- Obtain regulatory approval and trustee concurrence for the aquatic sites FS in FY09.

### MMRP

There are no MMRP actions scheduled for FY08 or FY09.

<b>FFID:</b>	FL457152412400	<b>Funding to Date:</b>	\$ 25.5 million
<b>Size:</b>	28,824 acres	<b>Est. CTC (Comp Year):</b>	\$ 16.9 million (FY 2033)
<b>Mission:</b>	Provide advanced F-15 and F/A-22 fighter training	<b>IRP Sites (Final RIP/RC):</b>	39 (FY2012)
<b>HRS Score:</b>	50.00; placed on NPL in April 1997	<b>MMRP Sites (Final RIP/RC):</b>	11 (FY2021)
<b>IAG Status:</b>	FFA under negotiation	<b>Five-Year Review Status:</b>	Planned
<b>Contaminants:</b>	POLs, chlorinated solvents, pesticides, metals, PCBs, general refuse, VOCs, SVOCs		
<b>Media Affected:</b>	Groundwater, Surface Water, Sediment, Soil		



Panama City, Florida

**Progress To Date**

Tyndall Field was activated in 1941 as the Flexible Gunnery School of the U.S. Army Air Corps. The installation became Tyndall Air Force Base (AFB) in 1947. The current mission is F-15 Eagle and F/A-22 Raptor fighter training under the 325th Fighter Wing. EPA placed the installation on the NPL in April 1997. In 2005, the BRAC Commission recommended Tyndall AFB for realignment. The primary site responsible for the installation's inclusion on the NPL, OT 029 (Shoal Point Bayou), has DDT contamination in the sediments. Tyndall AFB is involved in a Florida partnering initiative with EPA, the State, and natural resource trustees serving as the installation's technical review committee (TRC). In FY94, FY97, FY00, and FY03, there were efforts to establish a Restoration Advisory Board, but public response indicated there was no need. The TRC includes community members providing public input into the restoration process.

Environmental studies, beginning in FY81, have identified Environmental Restoration account sites under the Installation Restoration Program (IRP). The cleanup progress at Tyndall AFB for FY03 through FY06 is detailed below.

In FY03, the installation began source removal pilot projects at Petroleum Sites SS 015 and FT 023. Remedial action (RA) began at FT 016. The installation developed a final proposed plan and a draft Record of Decision (ROD) for Landfills (LFs) 006 and 007, FT 017, and SS 026. The Air Force conducted an innovative environmental assessment at an off-site location (OT 018) using the Triad approach.

In FY04, the Air Force began developing and implementing performance-based changes to the IRP program. Tyndall AFB awarded and initiated three 5-year performance-based contracts (PBCs) covering RA design and implementation for seven sites (LF 006 and 007; SS 015, 019 and 026; and FT 017 and 023). The PBCs resulted in cost avoidances of more than \$6.16 million. The remedial investigation (RI)/baseline risk assessment was finalized, and post-RI and feasibility study (FS) work began at OT 029.

In FY05, Tyndall AFB received a no further remedial action plan (NFRAP) concurrence for three sites (LF 001 and 003, and SS 014) and completed draft RI studies recommending a NFRAP

for two additional sites (LF 005 and OT 037). The installation also submitted three sites (LF 001 and 003, and SS 014) for NFRAP regulatory concurrence. The Air Force began the preliminary assessments (PAs) for all identified Military Munitions Response Program (MMRP) sites.

In FY06, Tyndall AFB implemented the remedies for LF 006 and 007, FT 017, and SS 026 to reduce exposure risks with concurrence from EPA and the state. Tyndall AFB achieved remedy in place (RIP) status for SS 015 and 019, and FT 023, and investigated and closed Area of Concern (AOC) 006. The installation converted another AOC to a site (FR 038) and awarded the RI/FS to complete the investigation and identify remedial options. The Air Force awarded a PBC to complete remedy selection and implementation or site closure for all remaining active sites, except FR 038. The Air Force continued the PAs at all identified MMRP sites and began site inspections.

**FY07 IRP Progress**

Administrative issues delayed completion of RODs and remedy implementation for LF 006 and 007, OT 29, and SS 026. Regulatory issues also delayed no action RODs for LF 001 and 003, and technical issues delayed the ROD for LF 005. Tyndall AFB did not submit the performance-based interagency agreement (IAG) due to regulatory issues.

**FY07 MMRP Progress**

The Air Force completed Phase I Comprehensive Site Evaluation (CSE) PAs. Four range complexes were confirmed and eight more potential MMRP areas were identified. Twelve areas were identified as not meeting MMRP eligibility criteria.

**Plan of Action**

Plan of action items for Tyndall Air Force Base are grouped below according to program category.

**IRP**

- Submit performance-based IAG/federal facility agreement in FY08.
- Finalize RODs and achieve RIP for LF 006 and 007, FT 017, and SS 026 in FY08.
- Complete RODs and implement remedy at OT 029 in FY08.
- Complete necessary characterization, FS, and RODs for LF 001, 003, and 005 in FY08.

**MMRP**

- Begin Phase II CSE in FY08.
- Complete Phase II CSE in FY08-FY09.

<b>FFID:</b>	MA121382063100	<b>Funding to Date:</b>	\$ 41.2 million
<b>Size:</b>	78 acres	<b>Est. CTC (Comp Year):</b>	\$ 14.2 million (FY 2029)
<b>Mission:</b>	Research and develop food, clothing, equipment, and materials for military operations	<b>IRP Sites (Final RIP/RC):</b>	17 (FY2009)
<b>HRS Score:</b>	50.00; placed on NPL in May 1994	<b>MMRP Sites (Final RIP/RC):</b>	None
<b>IAG Status:</b>	None	<b>Five-Year Review Status:</b>	Complete
<b>Contaminants:</b>	Pesticides, herbicides, pentachlorophenol, solvents, PCBs, VOCs, SVOCs, metals		
<b>Media Affected:</b>	Groundwater, Surface Water, Sediment, Soil		



Natick, Massachusetts

**Progress To Date**

Since 1954, the U.S. Army Soldiers Systems Center (Soldiers Systems Center) has supported industrial, laboratory, and storage activities for research and development in food science and in aeromechanical, clothing, material, and equipment engineering. Operations used various volatile organic compounds (VOCs), including tetrachloroethylene (PCE), trichloroethylene (TCE), carbon disulfide, benzene, and chloroform. Site types include contaminated buildings, spill sites, storage areas, disposal pits, dry wells, and underground storage tanks. The installation made efforts to partner with state and federal regulators and to communicate with the community after EPA placed the installation on the NPL in 1994. In 2005, the BRAC Commission recommended Soldiers Systems Center for realignment. The installation established a Restoration Advisory Board (RAB) in FY95. A 5-year review was completed for Natick Research, Development, and Engineering Center (NRDEC) 05 in FY07.

To date, the installation has signed one Record of Decision (ROD) for Building T 25. The T 25 ROD contained a unique partnering cooperative agreement involving the Town of Natick, the Massachusetts Department of Environmental Protection, EPA, and the Army. The installation has performed several interim actions, including removal of waste and contaminated soil and pavement from the drum storage area. The installation also removed a 1,000-gallon waste oil storage tank and associated contaminated soil, as well as polychlorinated biphenyl (PCB)-contaminated soil from an exploded transformer. In FY03, the Army completed an inventory of all Military Munitions Response Program (MMRP) sites and found none. The cleanup progress at the Soldiers Systems Center for FY03 through FY06 is detailed below.

In FY03, the Army installed three groundwater extraction wells and placed them in service. The Army completed an inventory of closed, transferred, and transferring ranges and sites with unexploded ordnance, discarded military munitions, or munitions constituents. The Army identified no MMRP sites at this installation.

In FY04, the Army installed four additional off-site monitoring wells to track and monitor the T 25 area plume location. The installation updated and expanded the sitewide groundwater

model to reflect additional monitoring and recovery wells, and additional plumes in the vicinity of the former Post Drinking Water Wells (PDWW) and Buildings 22 and 36. The Army also installed 10 additional on-site monitoring wells to delineate groundwater contamination in the vicinity of the former PDWW. The RAB met three times and provided comments on all draft and final reports.

In FY05, the Army initiated interim remedial action (IRA) soil removals at NRDEC 03/13 (Buildings T 62 and T 68 site) and NRDEC 09/12 (Building 14 and former Building 13 site), and replaced monitoring well MW 35B. The installation initiated an updated site inspection (SI) for NRDEC 11 (former PDWW site) and the remedial investigation (RI) for NRDEC 16 (Buildings 22 and 36). In addition, the installation submitted the Tier III sediment ecological and fish consumption human health study to EPA for review. A 5-year review was underway.

In FY06, Soldier Systems Center completed IRA soil removals at NRDEC 03/13. The installation completed the RI for NRDEC 11 and feasibility study (FS) for NRDEC 16. The installation completed the update of the SI for NRDEC 11 and updated the draft RI for NRDEC 6. The installation also completed additional fish consumption risk assessment analyses requested by EPA in connection with three sediment sites (NRDECs 07, 10, and 17). The Army submitted a draft proposed plan for NRDECs 03, 06, and 13, and draft 5-year review to EPA for review.

**FY07 IRP Progress**

Soldiers Systems Center completed the initial 5-year review for NRDEC 05. The installation submitted a draft explanation of significant differences and pilot study work plan to expand the existing groundwater treatment system to NRDECs 11 and 16. The Army completed an FS for three sediment sites (NRDECs 07, 10, and 17). The installation signed a No Further Action ROD for NRDECs 03, 06, and 13. The Army completed interim remedial action soil removal at NRDECs 09 and 12.

The RAB met quarterly and provided review and comments on various draft reports.

**FY07 MMRP Progress**

The Army has identified no MMRP sites at this installation.

**Plan of Action**

Plan of action items for U.S. Army Soldiers Systems Center are grouped below according to program category.

**IRP**

- Complete remedial design for three sediment sites (NRDECs 07, 10, and 17) in FY08-FY09.
- Submit draft ROD for T 25 soil site and Buildings 13, 14, and 19 (NRDECs 05, 09, 12, and 14) in FY08-FY09.

**MMRP**

There are no MMRP actions scheduled for FY08 or FY09.

<b>FFID:</b>	OR021382091700	<b>Est. CTC (Comp Year):</b>	\$ 8.4 million (FY 2023)
<b>Size:</b>	19,729 acres	<b>IRP Sites (Final RIP/RC):</b>	117 (FY2003)
<b>Mission:</b>	Store ammunition	<b>MMRP Sites (Final RIP/RC):</b>	2 (FY2010)
<b>HRS Score:</b>	31.31; placed on NPL in July 1987	<b>Five-Year Review Status:</b>	Completed and planned
<b>IAG Status:</b>	FFA signed in October 1989		
<b>Contaminants:</b>	UXO, pesticides, nitrates, explosives, heavy metals		
<b>Media Affected:</b>	Soil and Groundwater		
<b>Funding to Date:</b>	\$ 54.8 million		



Hermiston, Oregon

### Progress To Date

In 1941, the Army established Umatilla Ordnance Depot as a facility for storing conventional munitions. Between 1945 and 1955, the installation's functions expanded to include demolition, renovation, and maintenance of ammunition. In 1962, the Army began to store chemical munitions at the depot. EPA placed the installation on the NPL in July 1987. EPA and the Army signed a federal facility agreement (FFA) in October 1989. In December 1988, the BRAC Commission recommended realignment of the installation. In FY93, the installation transferred its conventional weapons mission to another installation. In FY94, the commander formed a BRAC cleanup team and converted the installation's technical review committee to a Restoration Advisory Board. In FY98, the installation officially changed its name from Umatilla Ordnance Depot to Umatilla Chemical Depot (CD). Identified sites include explosives-washout lagoons, an open burning and open detonation area, pesticide disposal pits, a deactivation furnace, and landfills. Significant remedies completed include bioremediation of explosives contaminated soil from a number of sites, landfill closure capping, and removal of all underground storage tanks. In FY99, the installation completed an environmental baseline survey at the 100/200 Series warehouses and a depotwide 5-year review. The installation also completed a 5-year review in FY04 for the Ammunition Demolition Activity Area (ADA) and groundwater operable units (OUs).

Environmental studies identified Installation Restoration Program (IRP) sites at this installation, grouped into nine OUs. In FY03, the Army completed an inventory of Military Munitions Response Program (MMRP) sites. The Army has signed eight Records of Decision (RODs) to date. The cleanup progress at Umatilla CD for FY03 through FY06 is detailed below.

In FY03, the installation completed the function range intrusive investigation and the remedial action (RA) report for ADA OU. The Army completed an inventory of closed, transferred, and transferring ranges and sites and identified one site, the Quality Assurance Function Range (QAFR) (Site 39). The installation completed an engineering evaluation and cost analysis for the range.

In FY04, the installation completed the addendum RA report for ADA Sites 19E and 19F. The installation completed the 5-year review for ADA and groundwater OUs. The Army completed a draft ROD for the Umatilla CD Landfill for selenium cleanup. The installation installed additional monitoring wells. The Army completed a draft revised monitoring plan for the Umatilla CD Landfill. The installation completed the proposed plan and draft ROD for the QAFR under the MMRP.

In FY05, the installation completed an MMRP ROD for the QAFR.

In FY06, the installation completed the munitions and explosives of concern work plan at the QAFR.

### FY07 IRP Progress

Umatilla CD developed a scope of work for the groundwater pump-and-treat enhancement study and initiated the study. The study will evaluate through modeling the potential to increase efficiency of contaminant recovery by examining modification of the pumping rates of the existing wells. The impact of additional contaminant reduction by in situ source zone treatment will also be evaluated. The installation conducted groundwater pump-and-treat plant maintenance, which consisted of rebuilding extraction pumps, replacing vault covers, and replacing electronics.

Technical issues delayed completion of the RA report for groundwater treatment. Regulatory issues delayed completion of the ROD and revised monitoring plan for the Umatilla CD Landfill. The environmental condition of property report was not completed due to funding issues and will not be pursued further.

### FY07 MMRP Progress

The Army conducted no MMRP actions at this installation.

### Plan of Action

Plan of action items for Umatilla Chemical Depot are grouped below according to program category.

#### IRP

- Complete ROD and revised monitoring plan for the Umatilla CD Landfill in FY08.
- Complete RA report for groundwater treatment in FY08.
- Implement groundwater pump-and-treat enhancement study results in FY08.

#### MMRP

- Complete and staff the draft site safety submission for the QAFR in FY08.
- Begin RA at the QAFR in FY08.
- Reactivate Site 148 as an active MMRP site requiring a munitions response in FY08.

<b>FFID:</b>	VA321382093100	<b>Contaminants:</b>	Metals, VOCs, petroleum hydrocarbons, pesticides, PAHs, PCBs, asbestos, cyanide, photographic wastes
<b>Size:</b>	696 acres	<b>Media Affected:</b>	Groundwater, Surface Water, Sediment, Soil
<b>Mission:</b>	Provided logistical support for assigned signal intelligence and electronics warfare weapon systems and equipment; provide communication jamming and intelligence fusion material capability	<b>Funding to Date:</b>	\$ 11.8 million
<b>HRS Score:</b>	N/A	<b>Est. CTC (Comp Year):</b>	\$ 2.3 million (FY 2010)
<b>IAG Status:</b>	None	<b>IRP Sites (Final RIP/RC):</b>	37 (FY2007)
		<b>MMRP Sites (Final RIP/RC):</b>	None
		<b>Five-Year Review Status:</b>	Completed and planned



Vint Hill Farms, Virginia

**Progress To Date**

During the 1940s and 1950s, Vint Hill Farms Station served as a training center for Signal Corps personnel and as a refitting station for signal units. During FY90, a preliminary assessment (PA) identified 26 sites, including underground storage tanks (USTs), landfills, lagoons, storage areas, pit areas, fire training areas, disposal areas, spill sites, areas with asbestos-containing materials, lead-based paint areas, and transformers containing polychlorinated biphenyls (PCBs). Also in FY90, soil and groundwater sampling revealed petroleum and solvent contamination. The installation conducted removal actions for USTs, contaminated soil, and PCB-containing transformers. In 1993, the BRAC Commission recommended closure of Vint Hill Farms Station. The installation formed a Restoration Advisory Board (RAB) in FY95, which adjourned in FY06. Vint Hills Farm Station officially closed on October 1, 1997. In FY02, the Army completed remedial actions (RAs) at three of the remaining four sites, concluding cleanup of the remaining nontransferred acres. The Army completed a 5-year review of Sites 1 and 39 in FY05.

Environmental studies following the PA identified Installation Restoration Program (IRP) sites at Vint Hills Farms Station requiring additional investigation or cleanup. With the exception of Area Requiring Environmental Evaluation (AREE) 34, which was discovered post transfer, all environmental investigation and remediation is complete. The Army has transferred the entire 696 acres, including the final 5.3 acres transferred in FY03. In FY03, the Army completed its Military Munitions Response Program (MMRP) inventory for this installation. The cleanup progress at Vint Hill Farms Station for FY03 through FY06 is detailed below.

In FY03, the Army completed a finding of suitability to transfer and transferred the remaining five acres by deed, completing the transfer of the entire 696 acres. Investigation of AREE 34 defined a shallow localized area of groundwater contamination, as well as some contamination in the deep aquifer. Contamination is upgradient of Production Well #1, which provides water to the new residents living on the property. Due to this potential exposure pathway, additional characterization was required to determine the need for an RA. Vint Hill Farms Station remediated one site, a pistol range, under the IRP.

In FY04, the Army performed the final sampling of Site 20 (former Army/Air Force gas station) and received a no further action letter from the regulators. Environmental regulators reduced the Site 1 quarterly sampling to annual sampling and decreased the list of analytes required. The installation completed the remedial investigation of AREE 34 and used sensing technology and EPA's Triad approach to determine the extent of contamination. The installation completed the feasibility study and proposed plan for AREE 34. The installation held a public meeting to present the proposed remedy (monitored natural attenuation and land use controls) for AREE 34.

In FY05, the Army completed a 5-year review of Sites 1 and 39. All institutional controls were successfully maintained. The Army conducted annual sampling at Site 1, and results were consistent with past sampling events.

In FY06, Vint Hill Farms Station and the Virginia Department of Environmental Quality (VDEQ) signed a decision document and began the remedy process for AREE 34 requiring hot spot removal and long-term management. The installation awarded a performance-based contract (PBC) for in situ treatment and began fieldwork. The Army conducted annual sampling at Site 1. The Vint Hill Farms Station RAB officially adjourned.

**FY07 IRP Progress**

Vint Hill Farms Station continued the PBC work at AREE 34. The installation successfully treated the hot spot soil. The groundwater in the hot spot area showed a 94 percent reduction in chlorinated solvents. The Army and the VDEQ agreed to a sitewide long-term monitoring plan. The Army continued AREE 34 (Site 42) and Site 1 monitoring under this plan.

**FY07 MMRP Progress**

The Army conducted no MMRP actions at this installation.

**Plan of Action**

Plan of action items for Vint Hill Farms Station are grouped below according to program category.

**IRP**

- Perform annual sampling for Site 1 in FY08.
- Perform quarterly sampling of AREE 34 in FY08-FY09.

**MMRP**

There are no MMRP actions scheduled for FY08 or FY09.

<b>FFID:</b>	PA317002454500	<b>Media Affected:</b>	Groundwater, Surface Water, Soil
<b>Size:</b>	817 acres	<b>Funding to Date:</b>	\$ 26.2 million
<b>Mission:</b>	Perform research, development, testing, and evaluation for naval aircraft systems and antisubmarine warfare systems; perform associated software development	<b>Est. CTC (Comp Year):</b>	\$ 18.9 million (FY 2030)
<b>HRS Score:</b>	57.93; placed on NPL in October 1989	<b>IRP Sites (Final RIP/RC):</b>	10 (FY2004)
<b>IAG Status:</b>	FFA signed in September 1990	<b>MMRP Sites (Final RIP/RC):</b>	None
<b>Contaminants:</b>	Heavy metals, firing range wastes, fuels, land sewage sludges, non-industrial solid wastes, paints, PCBs, VOCs, SVOCs	<b>Five-Year Review Status:</b>	Completed



Warminster Township, Pennsylvania

**Progress To Date**

In July 1991 and July 1995, the BRAC Commission recommended that Warminster Naval Air Warfare Center (NAWC) Aircraft Division be realigned and closed. The installation closed in March 1997. Site types include waste burn pits, sludge disposal pits, landfills, waste pits, and a fire training area. The installation was placed on the NPL in October 1989 and signed a federal facility agreement (FFA) in September 1990. The installation formed a technical review committee (TRC) in FY88 and converted it to a Restoration Advisory Board (RAB) in FY94. The installation also completed a community relations plan and established an administrative record in FY94. In FY99, the installation prepared an Environmental Baseline Survey for property transfer for public benefit conveyance and the economic development conveyance parcels for Phase I, which were completed in FY00. A 5-year review was completed in FY02.

Warminster NAWC has identified Installation Restoration Program (IRP) sites and has signed Records of Decision (RODs) for Operable Unit (OU) 1, Area A, and Sites 6 and 7. In addition, No Further Action RODs have been signed for Sites 4 (OU 6), 5, 8, and Areas B and D. In FY02, the Navy completed an inventory of all Military Munitions Response Program (MMRP) sites. The cleanup progress at Warminster NAWC for FY03 through FY06 is detailed below.

In FY03, the Navy continued its quarterly perimeter and off-base monitoring program, as well as the monthly sampling of the groundwater treatment system. The installation initiated technical discussions on the merits of monitored natural attenuation as an optimization of the groundwater treatment system. The Area C groundwater transfer line was relocated by the developer with Navy oversight.

In FY04, the Navy conducted perimeter and off-base monitoring according to the long-term management (LTM) plan. It also maintained, optimized, and conducted sampling of the groundwater treatment system and maintained and operated land use controls (LUCs).

In FY05, Warminster NAWC Aircraft Division continued perimeter and off-base monitoring according to the LTM plan. The well reduction strategy continued through discussions with

the technical evaluation group. The installation continued work on the groundwater treatment system and maintained and operated LUCs.

In FY06, Warminster NAWC Aircraft Division prepared a work plan to address the higher contaminant levels found at Area C. The Navy continued to streamline the monitoring program by reviewing and discussing the monitoring and/or extraction wells that could be sampled less frequently or shutdown.

**FY07 IRP Progress**

Warminster NAWC completed the work plan for the optimization study of the groundwater extraction system. The installation discussed alternatives for source removal and conducted field investigations at Area C. The Navy continued to streamline the monitoring program. Warminster NAWC coordinated with EPA and the Pennsylvania Department of Environmental Protection (PADEP) to investigate potentially responsible parties located west of the former facility. Efforts were initiated to install a new extraction well at Area A. The Navy continued working with Warminster Municipal Authority to provide contaminant protection of their water supply wells 13 and 26.

Warminster NAWC held four RAB meetings.

**FY07 MMRP Progress**

The Navy has identified no MMRP sites at this installation.

**Plan of Action**

Plan of action items for Warminster Naval Air Warfare Center Aircraft Division are grouped below according to program category.

**IRP**

- Implement changes to the groundwater treatment system in FY08-FY09.
- Coordinate with PADEP and EPA Region III to identify source of off-site groundwater contamination in FY08-FY09.
- Conduct quarterly TRC/RAB meetings in FY08-FY09.

**MMRP**

There are no MMRP actions scheduled for FY08 or FY09.

<b>FFID:</b>	DC317002431000	<b>Funding to Date:</b>	\$ 30.0 million
<b>Size:</b>	63 acres	<b>Est. CTC (Comp Year):</b>	\$ 8.4 million (FY 2017)
<b>Mission:</b>	Provide resources, including administrative space, housing, training facilities, logistical support, and supplies, for Washington Navy Yard tenants and other assigned units	<b>IRP Sites (Final RIP/RC):</b>	31 (FY2012)
<b>HRS Score:</b>	48.57; placed on NPL in July 1998	<b>MMRP Sites (Final RIP/RC):</b>	1 (FY2008)
<b>IAG Status:</b>	FFA signed in June 1999	<b>Five-Year Review Status:</b>	A 5-year review is not required for this installation.
<b>Contaminants:</b>	Solvents, metals, VOCs, SVOCs, PCBs, pesticides		
<b>Media Affected:</b>	Groundwater, Surface Water, Sediment, Soil		



Washington, DC

## Progress To Date

Investigations at the Washington Navy Yard (NY) initially identified 18 sites and 3 leaking underground storage tank sites. Contaminants released from past storage and disposal operations at the installation may have migrated into shallow and deep aquifers and the Anacostia River. The installation was placed on the NPL in July 1998. A RCRA consent order, signed in July 1997, was added into Washington NY's federal facility agreement (FFA), which was signed in June 1999. In 2005, the BRAC Commission recommended Washington NY for realignment. A community relations plan was developed in FY99.

To date, the installation has completed Records of Decision (RODs) for Sites 1, 2, 3, 4, 5, 7, 9, 11, 13, 14, and 16 and two no further action (NFA) RODs. In FY02, the Navy completed an inventory of all Military Munitions Response Program (MMRP) sites. The cleanup progress at Washington NY for FY03 through FY06 is detailed below.

In FY03, the installation completed the draft work plan for investigation of fill as a site screening area (SSA) and completed the remedial investigation (RI) for two sites and a draft RI for nine sites. In addition, the installation began fieldwork for the Site 10 removal action and a facilitywide groundwater data gaps investigation.

In FY04, the installation initiated a work plan for fill as an SSA at the installation and completed draft SSA investigation reports for several SSAs. It also completed an NFA ROD for Site 4 and continued removal action for Site 10. The installation conducted fieldwork for installationwide groundwater data gaps and completed an installationwide groundwater draft RI report. The installation also conducted fieldwork for Site 5. The installation completed the preliminary assessment (PA) process for the listed MMRP site (the Experimental Battery), as well as the draft final report and a recommendations report.

In FY05, Washington NY continued removal actions for Site 10 and completed SSA fill field investigation. It finalized the final proposed remedial action plan and NFA ROD for Site 14. It also finalized the RI and developed the NFA proposed plan (PP) for Site 16. The installation completed a final feasibility study and draft PP for Site 5. Washington NY provided a draft final PA to

regulators and developed a Navy response to comments for regulators.

In FY06, Washington NY continued removal actions for Site 10. The installation finalized the Operable Unit (OU) 2 sediment work plan. The Navy finalized RODs for Sites 5 and 16. The installation also completed the work plan and field investigations for the Site 6 extended RI. The installation provided Navy with a response to comments for regulators. Additionally, the Navy finalized a PA for the one MMRP site.

## FY07 IRP Progress

Washington NY continued removal action for Site 10. The installation completed fieldwork for the Phase I OU 2 near the shore sediment investigation. The installation finalized the work plan for SSAs 3, 8, and 10 which are now Sites 21, 22, and 23. The Navy finalized RODs for Sites 1, 2, 3, 7, 9, 11, and 13. The cost of completing environmental restoration has changed significantly due to technical issues.

Washington NY finalized the work plan for the removal action at Site 6; however, technical issues delayed Site 6 fieldwork.

## FY07 MMRP Progress

The Navy conducted no MMRP actions at this installation.

## Plan of Action

Plan of action items for Washington Navy Yard are grouped below according to program category.

### IRP

- Complete fieldwork for removal action and RI at Site 6 in FY08.
- Complete fieldwork and draft RI report for Sites 21, 22, and 23 (SSAs 3, 8, and 10) in FY08.

### MMRP

- Conduct site inspection at the MMRP Site in FY08

<b>FFID:</b>	WV39799F346100	<b>Funding to Date:</b>	\$ 73.9 million
<b>Size:</b>	2,704 acres	<b>Est. CTC (Comp Year):</b>	\$ 27.4 million (FY 2020)
<b>Mission:</b>	Manufactured TNT	<b>IRP Sites (Final RIP/RC):</b>	44 (FY2015)
<b>HRS Score:</b>	35.72; placed on NPL in September 1983	<b>MMRP Sites (Final RIP/RC):</b>	1 (FY2003)
<b>IAG Status:</b>	IAGs signed in September 1987 and July 1989	<b>Five-Year Review Status:</b>	Planned
<b>Contaminants:</b>	TNT, DNT, organic compounds, VOCs, SVOCs, metals, propellants		
<b>Media Affected:</b>	Groundwater, Surface Water, Sediment, Soil		



Point Pleasant, West Virginia

**Progress To Date**

From 1941 to 1946, West Virginia Ordnance Works manufactured TNT from toluene, nitric acid, and sulfuric acid. By-products of the manufacturing process included TNT, dinitrotoluene, and organic compounds, which were released into groundwater, soil, surface water, and sediment. Principal sites include TNT manufacturing areas, wastewater sewer lines, and wastewater ponds known as the "red and yellow water ponds." EPA placed West Virginia Ordnance Works on the NPL in September 1983. The Army and EPA signed the first interagency agreement (IAG) in September 1987 and signed a second IAG in July 1989. The U.S. Army Corps of Engineers (USACE) converted the technical review committee to a Restoration Advisory Board in FY98. USACE completed 5-year reviews in FY95, FY00, and FY05. EPA partially delisted a 509-acre parcel from the NPL in FY03 and an additional 1,004 acres in FY04.

The property has been consolidated into Operable Units (OUs) 1 through 5 and 7 through 13. To date, the Army and EPA have signed Records of Decision (RODs) for OUs 1, 2, and 11 and no further action (NFA) RODs for OUs 10 and 12. The former OU 6 was changed to Environmental Unit 06 and is complete. OU 7 is a potentially responsible party project and OU 13 is under EPA Lead with NFA planned for the Army. In FY03, the Army conducted an inventory of closed, transferred, and transferring ranges and sites with unexploded ordnance, discarded military munitions or munitions constituents at this property, and identified no Military Munitions Response Program (MMRP) sites. The cleanup progress at West Virginia Ordnance Works for FY03 through FY06 is detailed below.

In FY03, USACE signed NFA decision documents for Ecological Site Inventories 1, 4, and 6. USACE completed the removal action at Area of Concern (AOC) 18 and initiated the removal action at OU 5. During the removal action at AOC 18, the team used an innovative method of stabilization prior to disposal that allowed a cost savings. Another cost savings resulted from the disposal of wastewater from the composting operation by using the OU 4 treatment system. USACE signed an NFA ROD for OU 10. The team completed a comprehensive review of the property and continued operation of the groundwater extraction and treatment systems. EPA partially delisted a 509-acre parcel and USACE prepared a draft notice

of intent for partial delisting of an additional 1,004 acres. The Army conducted an inventory of closed, transferred, and transferring ranges and sites with unexploded ordnance, discarded military munitions or munitions constituents at this property, and identified no Military Munitions Response Program (MMRP) sites.

In FY04, USACE completed the removal of contaminated soils from OU 5. In addition, the property completed the second NPL partial delisting of 1,004 acres, bringing the size of the NPL boundary down to 1,184 acres. USACE also completed the draft third 5-year review report and a remedial system evaluation on the groundwater extraction and treatment facilities to address optimization of the system. USACE initiated a treatability study (TS) for in situ treatment of groundwater for OU 9 that uses an innovative hydrogen release compound injection to clean up the groundwater.

In FY05, the Army completed the third 5-year review report on schedule. USACE also completed the TS for OU 9.

In FY06, USACE completed the draft feasibility study (FS) and proposed plans (PPs) for OUs 8 and 9. USACE also received regulatory concurrence on the OU 4 revised evaluation report.

**FY07 IRP Progress**

USACE prepared and continued the PP for OUs 8 and 9. USACE continued the long-term management (LTM) program. The team received EPA concurrence on the OU 4 groundwater extraction and treatment system operating properly and successfully. Technical issues determined that the FS for OUs 8 and 9 required NFA. The cost of completing environmental restoration has changed significantly due to technical issues and changes in estimating criteria.

**FY07 MMRP Progress**

USACE has identified no MMRP sites at this property.

**Plan of Action**

Plan of action items for West Virginia Ordnance Works are grouped below according to program category.

**IRP**

- Complete ROD amendment and FS for OU 1 in FY08.
- Complete PP for OUs 8 and 9 (Southeast Area) in FY08.
- Complete NFA ROD for OUs 8 and 9 in FY08.
- Continue LTM actions in FY08-FY09.

**MMRP**

- There are no MMRP actions scheduled for FY08 or FY09.

<b>FFID:</b>	WA017002336100	<b>Contaminants:</b>	PCBs, PAHs, chlorinated solvents, VOCs, SVOCs, metals
<b>Size:</b>	7,000 acres	<b>Media Affected:</b>	Groundwater, Surface Water, Sediment, Soil
<b>Mission:</b>	Serve as host to training and operations center for two squadrons: Center for U.S. Marine Corps and Navy Reserve training in the Pacific Northwest	<b>Funding to Date:</b>	\$ 95.2 million
<b>HRS Score:</b>	39.64 (Seaplane Base), placed on NPL in February 1990, delisted in 1995; 48.48 (Ault Field), placed on NPL in February 1990	<b>Est. CTC (Comp Year):</b>	\$ 41.2 million (FY 2044)
<b>IAG Status:</b>	FFA signed in September 1990	<b>IRP Sites (Final RIP/RC):</b>	91 (FY2007)
		<b>MMRP Sites (Final RIP/RC):</b>	4 (FY2013)
		<b>Five-Year Review Status:</b>	Completed and planned



Oak Harbor, Washington

## Progress To Date

Whidbey Island Naval Air Station (NAS) occupies four areas on Whidbey Island, Washington: Ault Field, Seaplane Base, Coupville Outlying Field, and Lake Hancock Target Range. The Seaplane Base and Ault Field were placed on the NPL in February 1990. The installation signed a federal facility agreement (FFA) in September 1990. In 2005, the BRAC Commission recommended Whidbey Island NAS for realignment. Past disposal practices from aircraft maintenance, vehicle maintenance, public works shop activities, and fire fighting training activities have contributed to contamination. In FY94, the installation converted its technical review committee to the Navy's first Restoration Advisory Board. The Seaplane Base was delisted from the NPL in 1995. The community relations plan was updated in FY96. The installation completed 5-year reviews in FY98 and FY04.

Whidbey Island NAS has identified Installation Restoration Program (IRP) sites at the installation. Investigations initially identified at the installation were grouped into five operable units (OUs). The installation has completed five Records of Decision. In FY02, the Navy completed an inventory of all Military Munitions Response Program (MMRP) sites. The cleanup progress at Whidbey Island NAS for FY03 through FY06 is detailed below.

In FY03, the installation continued treatment operations at OUs 1 and 5.

In FY04, the installation completed a 5-year review, and continued treatment operations at OUs 1 and 5. It also supported EPA in delisting Ault Fields OUs 2, 3, and 5.

In FY05, Whidbey Island NAS began investigating the potential for a new contaminant of concern from Area 6. The installation initiated an optimization study (OS) on a pump-and-treat system and a free product recovery system.

In FY06, Whidbey NAS continued treatment operations at OUs 1 and 5, and upgraded hardware at OU 1. Pump-and-treat and fuel recovery operations at Sites 6 and 52 provided continued treatment. The installation confirmed contamination in one off-site well. The installation also completed re-sampling of Site 16 Runway Ditches. The installation conducted preliminary

assessments (PAs) at Lake Hancock Target Range, Polnell Point, Crescent Harbor Practice Range, and Aviation Fleet Gunnery School (Machine Gun Ranges).

## FY07 IRP Progress

Whidbey Island NAS continued treatment operations at OUs 1 and 5. The installation expanded 1,4-dioxane sampling to define plume boundaries. The Navy initiated a 5-year review. Whidbey Island NAS completed an explanation of significant differences for land use controls, and completed an OS at Sites 6 and 52. The installation suspended fuel recovery at Site 52.

## FY07 MMRP Progress

Whidbey Island NAS obtained regulatory concurrence and completed PAs of four MMRP sites, and identified three additional areas of concern.

## Plan of Action

Plan of action items for Whidbey Island Naval Air Station Ault Field and Seaplane Base are grouped below according to program category.

### IRP

- Complete 5-year review in FY08.
- Install off-site wells to monitor 1,4-dioxane plume in FY08-FY09.
- Install bioventing treatment system in an abandoned underground storage tank to treat petroleum-contaminated soil in FY08-FY09.
- Replace contaminated private well with 1,4-Dioxane in FY08-FY09.
- Continue treatment operations at OU 1 in FY08-FY09.

### MMRP

- Complete site inspections for four MMRP sites and PAs for three new sites in FY08-FY09.

<b>FFID:</b>	MD317002344400	<b>Funding to Date:</b>	\$ 36.4 million
<b>Size:</b>	710 acres	<b>Est. CTC (Comp Year):</b>	\$ 2.5 million (FY 2006)
<b>Mission:</b>	Research, develop, test, and evaluate ordnance technology	<b>IRP Sites (Final RIP/RC):</b>	38 (FY2006)
<b>HRS Score:</b>	N/A	<b>MMRP Sites (Final RIP/RC):</b>	None
<b>IAG Status:</b>	None	<b>Five-Year Review Status:</b>	Completed
<b>Contaminants:</b>	Explosive compounds, waste oils, PCBs, heavy metals, VOCs, SVOCs, propellants, radioactive materials		
<b>Media Affected:</b>	Groundwater, Surface Water, Sediment, Soil		



Silver Spring, Maryland

**Progress To Date**

White Oak Naval Surface Warfare Center (NSWC) researched, developed, tested, and evaluated ordnance technology. In July 1995, the BRAC Commission recommended closure of White Oak NSWC. The facility closed in July 1997. Past activities at the installation included landfill disposal of oils, polychlorinated biphenyls (PCBs), solvents, paint residue, and other chemicals (including mercury); disposal of chemical research wastewater in dry wells; burning of explosive ordnance; and composting of sludge. Records also indicate that a radium spill occurred. Contaminants of concern are volatile organic compounds (VOCs), PCBs, cadmium, chromium, lead, mercury, nickel, and ordnance compounds. The installation's technical review committee, formed in FY89, was converted to a Restoration Advisory Board (RAB) in FY96. The installation established an administrative record, an information repository, and a community relations plan (CRP) in FY94. The installation formed a BRAC cleanup team in FY98. The BRAC cleanup plan (BCP) and the CRP were updated in FY02. White Oak NSWC completed a 5-year review in FY06.

Installation Restoration Program (IRP) sites have been identified at White Oak NSWC. The installation has completed 12 Records of Decision (RODs) to date. In FY02, the Navy completed an inventory of all Military Munitions Response Program (MMRP) sites. The cleanup progress at White Oak NSWC for FY03 through FY06 is detailed below.

In FY03, the installation completed a removal action at Site 7 and completed the final investigation report for Area of Concern (AOC) 2. The installation completed and signed No Further Action RODs for Site 28 and the Building 90 ditch. The installation submitted RODs for Site 7 and Site 11, which were under regulatory review. The installation held RAB and BRAC cleanup team meetings. The BCP was updated.

In FY04, White Oak NSWC completed two RODs for Sites 7 and 11 and prepared draft RODs for four sites (Sites 4, 5, 9, and 13). The installation also completed all certifications and demilitarizations of ordnance shapes. The RAB decreased meetings from bimonthly to quarterly. The installation continued partnering with EPA and the Maryland Department of the Environment.

In FY05, White Oak NSWC completed and signed all remaining RODs (Sites 4, 5/13, 9, and AOC 2) and remedial actions (RAs) were initiated at Sites 5/13, 7, 9, and 11.

In FY06, White Oak NSWC continued RA operation (RA-O) at Sites 5/13, 7, 9, and 11, and initiated RA at Sites 4, 49, and AOC 2. A Navy Tiger Team was utilized to optimize the remedy at Site 11. Additionally, the installation completed a 5-year review. The Navy awarded a contract for RA at Solid Waste Management Unit (SWMU) 87. The RAB continued to meet biannually.

**FY07 IRP Progress**

White Oak NSWC completed the active phase of remediation at Sites 5/13, 7, 9, 11, 49, and SWMU 87 (AOC 2), and continued RA-O performance monitoring at these sites. The installation continued the RA at Site 4. The Navy successfully negotiated the discontinuation of the facility's pump-and-treat system. EPA rescinded its unilateral RCRA administrative order (7003) that had previously governed the environmental restoration of White Oak NSWC. The cost of completing environmental restoration has changed significantly due to technical issues and changes in estimating criteria.

The installation reduced future RAB meetings from twice a year to once a year; however, stakeholder issues delayed dissolving the RAB.

The installation held two RAB meetings.

**FY07 MMRP Progress**

The Navy has identified no MMRP sites at this installation.

**Plan of Action**

Plan of action items for White Oak Naval Surface Warfare Center are grouped below according to program category.

**IRP**

- Dissolve the RAB in FY08-FY09.
- Continue RA-O at Sites 4, 5/13, 7, 9, 11, 46, 49, and SWMU 87 in FY08-FY09.

**MMRP**

There are no MMRP actions scheduled for FY08 or FY09.

<b>FFID:</b>	FL417002324400	<b>Funding to Date:</b>	\$ 36.0 million
<b>Size:</b>	3,842 acres	<b>Est. CTC (Comp Year):</b>	\$ 18.8 million (FY 2050)
<b>Mission:</b>	Train student naval aviators	<b>IRP Sites (Final RIP/RC):</b>	46 (FY2009)
<b>HRS Score:</b>	50.00; placed on NPL in May 1994	<b>MMRP Sites (Final RIP/RC):</b>	1 (FY2010)
<b>IAG Status:</b>	FFA under negotiation	<b>Five-Year Review Status:</b>	Completed
<b>Contaminants:</b>	Pesticides, PCBs, VOCs, heavy metals, chlorinated hydrocarbons, SVOCs, radioactive materials		
<b>Media Affected:</b>	Groundwater, Surface Water, Sediment, Soil		



Milton, Florida

## Progress To Date

Beginning in FY85, studies at this installation have identified sites at Whiting Field Naval Air Station (NAS) and the Outlying Landing Field (OLF) Barin. Whiting Field NAS has administrative responsibility for OLF Barin, located in Alabama. Site types include disposal areas and pits, storage areas, spill areas, landfills, a disposal and burning area, a maintenance area, underground storage tanks (USTs) and fuel pits, fire training areas, and drainage ditches. Whiting Field NAS formed a technical review committee (TRC) in FY89. The installation updated the community relations plan (CRP) in FY93 and FY03. Whiting Field NAS formed a TRC for the OLF Barin in FY92 and completed the OLF Barin's CRP in FY93. The installation was placed on the NPL in May 1994. The installation is currently negotiating a federal facility agreement (FFA). In FY95, both TRCs were converted to Restoration Advisory Boards. The Navy completed 5-year reviews for Sites 1 and 2 in FY06.

Whiting Field NAS has closed 12 sites: Sites 3, 5/5A, 8, 9, 12, 14, 36, and 37 were closed with no action (NA); Sites 6, 29, 31, and 38 were closed with no further action (NFA) necessary. Six sites were determined to have land use control (LUC)/engineering control (EC) remedies: 17, 18, 30, 32, 33, and 35. Six other sites determined to require LUC remedies: 1, 2, 10, 11, 13, and 15. Ten sites have been closed at OLF Barin. To date, the installation has signed 20 Record of Decision (ROD) documents. In FY02, the Navy completed an inventory of all Military Munitions Response Program (MMRP) sites. The cleanup progress at Whiting Field NAS for FY03 through FY06 is detailed below.

In FY03, the installation completed an investigation of the aviation gasoline pipeline for Section E. The installation developed the remedial action (RA) plan for UST 000002 and is ready for the next phase of development and design. In addition, the installation continued the monitoring for Sites 1, 2, 3, 4, 6, 30, 32, and 33, and UST 000005. The installation also continued 5-year reviews for Sites 1 and 2.

In FY04, the installation initiated the RA for Site 7 and continued monitoring land use controls (LUCs) for Sites 1, 2, 4, 30, 32, and 33. The installation also initiated operations at UST 000002 and monitoring at UST 00005. The installation

completed RODs on five sites. The installation completed draft 5-year reviews for Sites 1 and 2.

In FY05, Whiting Field NAS continued RA for Site 7; continued monitoring LUCs for Sites 1, 2, 30, 32, and 33; signed five no action or NFA RODs; and completed three remedial designs (RDs) and RAs. The installation also continued operations at UST 000002 and monitoring at UST 000005.

In FY06, Whiting Field NAS continued RA at Site 7 and UST 000002. The installation completed six RODs; one NA ROD, two LUC RODs, and three EC/LUC RODs. The 5-year reviews for Sites 1 and 2 were completed. The installation also continued monitoring Sites 1, 2, 30, 32, 33, and UST 000005, as well as conducted RA operations at UST 000002. Whiting Field NAS submitted the preliminary assessment (PA) for the MMRP site identified in FY02.

## FY07 IRP Progress

Whiting Field NAS completed LUC RODs for Sites 10 and 11. The installation prepared LUC RDs for Sites 13, 15, 17, 18, and 35. The Navy performed basewide groundwater sampling for an updated Site 40 remediation status. Whiting Field NAS continued monitoring at Sites 1, 2, 30, 32, and 33.

Regulatory issues delayed completion of the FFA; and preparation of the explanation of significant differences (ESD) for the NFA ROD at Site 2.

## FY07 MMRP Progress

Whiting Field NAS identified two new MMRP sites (Former Gunnery Area and Skeet Range) in the PA. The Navy awarded the site inspection (SI).

## Plan of Action

Plan of action items for Whiting Field Naval Air Station are grouped below according to program category.

### IRP

- Complete FFA in FY08.
- Prepare RODs for Sites 16 and 41 in FY08.
- Complete LUC RDs for Sites 10 and 11 in FY08.
- Prepare ESD for NFA ROD at Site 2 in FY08-FY09.

### MMRP

- Perform the SI for the Former Gunnery Area and Skeet Range in FY08.

<b>FFID:</b>	AZ957002858200	<b>Est. CTC (Comp Year):</b>	\$ 30.2 million (FY 2062)
<b>Size:</b>	4,043 acres	<b>IRP Sites (Final RIP/RC):</b>	33 (FY2010)
<b>Mission:</b>	Supported pilot training and ground equipment maintenance	<b>MMRP Sites (Final RIP/RC):</b>	3 (FY2008)
<b>HRS Score:</b>	37.93; placed on NPL in November 1989	<b>Five-Year Review Status:</b>	Completed, underway, and planned
<b>IAG Status:</b>	FFA signed in FY 1990		
<b>Contaminants:</b>	VOCs, POLs, heavy metals, pesticides, UXO, SVOCs		
<b>Media Affected:</b>	Groundwater and Soil		
<b>Funding to Date:</b>	\$ 59.1 million		



Mesa, Arizona

## Progress To Date

EPA placed Williams Air Force Base (AFB) on the NPL in 1989, and the Air Force signed a federal facility agreement (FFA) in FY90. In July 1991, the BRAC Commission recommended closure of the installation. The installation closed in September 1993. Sites identified at the installation include the liquid fuels storage area, Fire Protection Training Area No. 2, a collapsed stormwater line, and the old pesticide/paint shop. The installation updated the BRAC cleanup plan in FY97 and FY05. The Air Force completed a 5-year review in FY01.

Sites were consolidated into three operable units (OUs). In FY93, an environmental assessment of 30 additional areas resulted in the creation of 2 more OUs. A sixth OU was created by consensus statement. To date, Records of Decision (RODs) have been signed for OUs 1 through 5. Approximately 3,856 acres have been transferred to date. In FY04, the Air Force conducted an inventory of Military Munitions Response Program (MMRP) sites. The cleanup progress at Williams AFB for FY03 through FY06 is detailed below.

In FY03, the Air Force continued groundwater monitoring at OU 1 Landfill (LF) 004, OU 2 Site ST 012, and compliance site Building 760, and initiated groundwater monitoring at OU 6 Spill Site (SS) 17. In preparation for innovative thermal enhanced extraction (TEE) treatment at OU 2 Site ST 012, the installation obtained regulatory concurrence on a detailed conceptual site model of the complex site geology and facilitated a peer review of thermal technology through Arizona State University. The installation initiated an evaluation of the landfarming removal action at SS 017.

In FY04, the installation transferred 39 acres and planned for the construction and operation of the initial phase of TEE at OU 2 Site ST 012. The installation also conducted an engineering evaluation and cost assessment for the Bullet Fragment area of concern (AOC). Regulators continued to review the OU 6 ROD. The Air Force conducted an inventory of MMRP sites. MMRP sites were identified at this installation.

In FY05, the installation completed a removal action at the Bullet Fragment AOC and restored the site. The Air Force began evaluating requirements at MMRP sites at this installation.

In FY06, Williams AFB initiated construction of a thermal treatability study (TS) pilot at OU 2 (Site ST 012). The Air Force installed additional groundwater monitoring wells and awarded a supplemental remedial investigation (RI) at OU 1 (LF 004). The installation submitted the draft 5-year review to regulators. Williams AFB continued to evaluate requirements for MMRP sites.

## FY07 IRP Progress

Williams AFB continued long-term management (LTM) at OU 1 (LF 004) and remedial action operation (RA-O) at OU 2 (Site ST 012). The installation initiated fieldwork for a supplemental investigation at OU 1 (LF 004), and construction and operation of the pilot TS at OU 2 (Site ST 12) continued. The Air Force began preparing a ROD amendment for OU 3 (Site FT 002) and a ROD for OU 6 (SS 017).

## FY07 MMRP Progress

The Air Force continued to evaluate requirements for identified MMRP sites.

## Plan of Action

Plan of action items for Williams Air Force Base are grouped below according to program category.

### IRP

- Complete ROD amendment for OU 3 (Site FT 002) and ROD for OU 6 (SS 017) in FY08.
- Complete operation and evaluation of the pilot TS at OU 2 (Site ST 012) in FY08-FY09.
- Draft supplemental RI/feasibility study report and ROD amendment at OU 1 (LF 004) in FY08-FY09.
- Continue LTM at OU 1 (LF 004) and RA-O at OU 2 (Site ST 012) in FY08-FY09.

### MMRP

- Complete closure of identified MMRP sites in FY08.

<b>FFID:</b>	VA317002460500	<b>Funding to Date:</b>	\$ 9.5 million
<b>Size:</b>	1,578 acres	<b>Est. CTC (Comp Year):</b>	\$ 19.2 million (FY 2020)
<b>Mission:</b>	Supply Atlantic Fleet ships and provide recreational opportunities to military and civilian personnel	<b>IRP Sites (Final RIP/RC):</b>	17 (FY2014)
<b>HRS Score:</b>	48.72; placed on NPL in December 2000	<b>MMRP Sites (Final RIP/RC):</b>	1 (FY2015)
<b>IAG Status:</b>	FFA signed in March 2005	<b>Five-Year Review Status:</b>	A 5-year review is not required for this installation.
<b>Contaminants:</b>	VOCs, explosives, propellants, PAHs, metals, PCBs, SVOCs		
<b>Media Affected:</b>	Groundwater, Surface Water, Sediment, Soil		



Yorktown, Virginia

**Progress To Date**

Williamsburg Fleet Industrial Supply Center (FISC) was placed on the NPL in December 2000 because eight of its Installation Restoration Program (IRP) sites are hydrologically connected to the Chesapeake Bay. Contaminants at the installation include semivolatle organic compounds (SVOCs), polyaromatic hydrocarbons (PAHs), metals, and polychlorinated biphenyls (PCBs). These primarily affect groundwater, surface water, and sediment. The Navy signed a federal facility agreement (FFA) in FY05. The Naval Weapons Station Yorktown Restoration Advisory Board meets semi-annually and addresses IRP issues for Williamsburg FISC.

IRP sites have been identified at this installation. To date, Sites 1, 4, 7, 9, 10, and 11, and Areas of Concern (AOCs) 1 and 2 have been investigated. In FY02, the Navy completed an inventory of all Military Munitions Response Program (MMRP) sites. The cleanup progress at Williamsburg FISC for FY03 through FY06 is detailed below.

In FY03, the installation completed a No Further Response Action Plan (NFRAP) Decision Document (DD) for Sites 2, 3, 5, 6, 8, and 10. The Cheatham Annex (CAX) background study was completed. The installation also began an engineering evaluation and cost analysis and the soil removal action for Site 1. The installation initiated a preliminary assessment (PA) for Unexploded Ordnance 00001 (Marine Pistol and Rifle Range).

In FY04, the installation initiated a Round 2 remedial investigation (RI) for sediments at Site 1, and issued a draft RI with screening-level ecological risk assessment (SERA) Steps 1 and 2 for Site 11. The installation finalized an environmental geographic information system for CAX and completed an NFRAP DD for Site 12. Williamsburg FISC initiated an initial FFA for CAX and a time-critical removal action (TCRA) for shoreline protection at Site 7. The Agency for Toxic Substances and Disease Registry completed the CAX Public Health Assessment. The installation initiated the Site 1 soil removal action, which included debris uncovered during Hurricane Isabel.

In FY05, the Navy signed an FFA for CAX. The installation initiated remediation and restoration for the area of debris discovered in the treeline, south of the original soil removal

action at Site 1. Williamsburg FISC completed sediment work plans for a Round 2 RI at Site 1 and initiated sampling. The installation completed the RI with SERA Steps 1 and 2 for Sites 4 and 9. The installation submitted the draft final MMRP PA for the Marine Pistol and Rifle Range to regulators.

In FY06, Williamsburg FISC completed the TCRA shoreline stabilization project at Site 7. The installation completed a PA and initiated a site inspection (SI) for the Marine Pistol and Rifle Range.

**FY07 IRP Progress**

Williamsburg FISC completed an RI with SERA Steps 1, 2, and 3a at Site 11. The Navy initiated a removal action for sediments at Site 1. The installation completed a surface debris removal at AOC 7 (Drum and Can Disposal Area). The installation conducted investigations at the AOC north of CAX Depot Building 14.

Technical issues delayed initiation of the RI with baseline ecological risk assessment (ERA) at Site 11. Technical issues also delayed completing the removal action for sediments at Site 1.

**FY07 MMRP Progress**

The installation completed a field investigation of the closed Marine Pistol and Rifle Range and initiated the SI report.

Technical issues delayed completing the SI report of the Marine Pistol and Rifle Range.

**Plan of Action**

Plan of action items for Williamsburg FISC, Cheatham Annex are grouped below according to program category.

**IRP**

- Initiate the RI with baseline ERA at Site 11 in FY08.
- Complete the removal action for sediments at Site 1 in FY08.
- Initiate a No Further Action Record of Decision for Site 1 in FY08.
- Initiate a hot spot removal action for contaminated soils at Site 11 in FY08.

**MMRP**

- Complete the SI report for the closed Marine Pistol and Rifle Range in FY08.

<b>FFID:</b>	PA357122534900	<b>Est. CTC (Comp Year):</b>	\$ 1.0 million (FY 2013)
<b>Size:</b>	210 acres	<b>IRP Sites (Final RIP/RC):</b>	7 (FY2007)
<b>Mission:</b>	Train personnel for air transport and air evacuation activities	<b>MMRP Sites (Final RIP/RC):</b>	None
<b>HRS Score:</b>	50.00; placed on NPL in September 1995	<b>Five-Year Review Status:</b>	A 5-year review is not required for this installation.
<b>IAG Status:</b>	None		
<b>Contaminants:</b>	SVOCs, chlorinated solvents, jet fuel, VOCs		
<b>Media Affected:</b>	Groundwater, Sediment, Soil		
<b>Funding to Date:</b>	\$ 5.8 million		



Willow Grove, Pennsylvania

**Progress To Date**

The primary mission of the 913th Airlift Wing at the Willow Grove Air Reserve Station (ARS) is to train personnel for various air transport and air evacuation activities; to operate base facilities and air terminals; and to provide support to assigned units. EPA jointly placed the installation and the adjacent Willow Grove Naval Air Station on the NPL in September 1995. Industrial activities at Willow Grove ARS include aircraft maintenance, base civil engineering, and fuel storage. Aircraft maintenance operations involve the full range of repair and maintenance activities for aircraft and aerospace ground equipment. Base civil engineering operations involve generation of waste solvents, oils, miscellaneous chemicals, and paints from various shops, including a paint shop, plumbing shop, photography lab, carpentry shop, and several flammable-material storage facilities. Fuel storage operations include the bulk storage of jet fuel. The installation formed a Restoration Advisory Board (RAB).

Installation Restoration Program (IRP) sites have been identified at this installation. The cleanup progress at Willow Grove ARS for FY03 through FY06 is detailed below.

In FY03, Willow Grove ARS completed a pilot field test needed to design the in situ chemical oxidation portion of the remedy, and installed injection wells for interim implementation of the chemical oxidation process for Site ST 01 (petroleum/oil/lubricants [POL] Site). Willow Grove ARS installed and sampled two monitoring wells as directed by the State, completed baseline groundwater sampling and mass-in-place calculations, and completed 70 percent of the remedial system design. The installation held two RAB meetings.

In FY04, the installation implemented the chemical oxidation process at two out of eight area zones of the POL Site (ST 01). The installation also completed groundwater sampling (compliance and performance) and completed a biosparging pilot test. The test was successful within the limitations imposed by field conditions. The installation held two RAB meetings.

In FY05, Willow Grove ARS completed implementation of the chemical oxidation process at Area Zones B, D, and H. The installation completed quarterly groundwater sampling from the

monitoring wells and three events of performance sampling at Area Zones B, D, and H. Willow Grove ARS performed a remedial process optimization study for ST 01 and completed a preliminary biosparge design reconnaissance of the ST 01 to evaluate site conditions. The Air Force updated its Military Munitions Response Program (MMRP) inventory. No MMRP sites were identified at this installation during the inventory development. Willow Grove ARS held four RAB meetings.

In FY06, Willow Grove ARS completed two quarterly compliance samplings. The installation also completed the final biosparge design reconnaissance of the POL site, abandoned 13 monitoring wells, and developed a work plan for a supplemental investigation on the POL site to fill in data gaps and complete site characterization. The installation held quarterly RAB meetings.

**FY07 IRP Progress**

Willow Grove ARS constructed a biosparge system. The installation performed biosparge system operations and maintenance, and performance sampling at Zone H. The Air Force completed three compliance samplings. The installation also conducted a right-of-way field investigation (soil boring, temporary monitoring wells, trenches, soil and groundwater sampling). The cost of completing environmental restoration has changed significantly due to changes in estimating criteria.

**FY07 MMRP Progress**

The Air Force has identified no MMRP sites at this installation.

**Plan of Action**

Plan of action items for Willow Grove Air Reserve Station are grouped below according to program category.

**IRP**

- Relocate biosparge system to off-base leased property associated with ST 01 in FY08.
- Perform biosparge system operations and maintenance and performance sampling at off-base leased property associated with ST 01 in FY08.
- Complete four compliance samplings in FY08.
- Complete further investigation at POL Site area and complete an alternatives analysis if necessary in FY08.

**MMRP**

- There are no MMRP actions scheduled for FY08 and FY09.

<b>FFID:</b>	PA317002231200	<b>Funding to Date:</b>	\$ 9.7 million
<b>Size:</b>	1,090 acres	<b>Est. CTC (Comp Year):</b>	\$ 4.4 million (FY 2024)
<b>Mission:</b>	Serve as Reserve naval air station for aviation training activities	<b>IRP Sites (Final RIP/RC):</b>	13 (FY2012)
<b>HRS Score:</b>	50.00; placed on NPL in September 1995	<b>MMRP Sites (Final RIP/RC):</b>	None
<b>IAG Status:</b>	FFA signed in 2005	<b>Five-Year Review Status:</b>	A 5-year review is not required for this installation.
<b>Contaminants:</b>	Heavy metals, PCBs, POLs, solvents, VOCs, SVOCs, explosives, propellants, radioactive materials		
<b>Media Affected:</b>	Groundwater, Surface Water, Sediment, Soil		



Willow Grove, Pennsylvania

**Progress To Date**

The 2005 BRAC Commission recommended closure of Willow Grove Naval Air Station (NAS) Joint Reserve Base. The installation served as a reserve NAS for aviation training activities. Site types include landfills, underground storage tanks, and a fire training area. The installation formed a technical review committee in FY90. In FY91, it established an administrative record and information repository. The installation was placed on the NPL in September 1995. In FY95, the installation established a Restoration Advisory Board, which meets regularly. A community relations plan was developed in FY97. The Navy completed a federal facility agreement (FFA) for Site 2 in FY05.

Installation Restoration Program (IRP) sites have been identified at Willow Grove NAS Joint Reserve. The installation signed a No Further Action (NFA) Record of Decision (ROD) for Site 1 soil in FY06. In FY02, the Navy completed an inventory of all Military Munitions Response Program (MMRP) sites. The cleanup progress at Willow Grove NAS for FY03 through FY06 is detailed below.

In FY03, the installation completed fieldwork at Installation Restoration (IR) Site 10, the Navy Fuel Farm. In addition, the installation completed the removal of drums discovered adjacent to IR Site 2 and the soil analysis of the drum area and EPA environmental photographic interpretation center anomalies.

In FY04, the installation completed a Proposed Remedial Action Plan (PRAP) for Site 1 soil. In addition, the Navy received NFA letters from Pennsylvania Department of Environmental Protection (PADEP), for Sites 10 and 11. The Draft Site 5 feasibility study (FS) for groundwater and the draft Site 1 remedial investigation (RI) for groundwater were completed. A draft Site 2 RI was also completed.

In FY05, the BRAC Commission recommended closure of Willow Grove NAS. The installation submitted an NFA ROD for Site 1 soil. The installation also completed the FFA.

In FY06, the Navy and EPA, with concurrence from the PADEP signed an NFA ROD for Site 1 soil. In addition, the Navy completed a work plan and fieldwork for Site 3 RI. Technical developments eliminated the need for Site 1 groundwater monitoring.

**FY07 IRP Progress**

Willow Grove NAS Joint Reserve completed the CERFA identification of uncontaminated parcels, and EPA concurred with the determination. The Navy and EPA, with concurrence from the PADEP, completed the PRAP and signed an NFA ROD for Site 5 soil. The installation completed the test pits and sampling fieldwork for Site 3 RI to locate land-filled waste. The cost of completing environmental restoration has changed significantly due to technical issues.

**FY07 MMRP Progress**

The Navy has identified no MMRP sites at this installation.

**Plan of Action**

Plan of action items for Willow Grove Naval Air Station Joint Reserve Base are grouped below according to program category.

**IRP**

- Complete Site 2 RI in FY08-FY09.
- Complete Site 1 Groundwater PRAP/ROD and land use control remedial design in FY08-FY09.
- Complete follow-on geophysical surveys, additional test pits, and RI and FS at Site 3 FY08-FY09.
- Initiate groundwater biostimulation/ augmentation pilot study at Site 5 in FY08-FY09.

**MMRP**

There are no MMRP actions scheduled for FY08 or FY09.

<b>FFID:</b>	OH557172431200	<b>Funding to Date:</b>	\$ 191.9 million
<b>Size:</b>	8,145 acres	<b>Est. CTC (Comp Year):</b>	\$ 33.9 million (FY 2028)
<b>Mission:</b>	Serve as host to many organizations, including headquarters Air Force Materiel Command	<b>IRP Sites (Final RIP/RC):</b>	70 (FY2008)
<b>HRS Score:</b>	57.85; placed on NPL in October 1989	<b>MMRP Sites (Final RIP/RC):</b>	1 (FY2003)
<b>IAG Status:</b>	FFA signed in March 1991	<b>Five-Year Review Status:</b>	Completed and planned
<b>Contaminants:</b>	Acids, plating wastes, VOCs, waste oils and fuels, SVOCs, solvents, TCE		
<b>Media Affected:</b>	Groundwater and Soil		



Dayton, Ohio

**Progress To Date**

Past activities at Wright-Patterson Air Force Base (AFB) created spill sites and unlined waste disposal areas, including landfills (LFs), fire training areas, underground storage tanks, earth fill disposal areas, and coal storage areas. Soil and groundwater have been contaminated with volatile organic compounds (VOCs); semi-volatile organic compounds (SVOCs); trichloroethylene (TCE); and benzene, toluene, ethyl benzene, and xylene compounds. Fire training exercises conducted in unlined pits contaminated soil and groundwater with fuel and its combustion by-products. EPA placed the installation on the NPL in October 1989 and the Air Force signed a federal facility agreement (FFA) in March 1991. In FY97, two new sites, Contaminated Groundwater Area A/C and Contaminated Groundwater Area B, were added to address commingled groundwater plumes and to expedite source area site closure. The installation completed 5-year reviews in FY00 and FY06.

To date, two areas of concern (AOCs) have been remediated. Records of Decision (RODs) have been signed for LFs 8 and 10, groundwater remediation, and another 40 Installation Restoration Program (IRP) sites. A no further action ROD was signed for 21 sites. The cleanup progress at Wright-Patterson AFB for FY03 through FY06 is detailed below.

In FY03, the installation completed the preliminary assessment for AOC Building 20055. The removal action of contaminated soils at AOC Building 20025 was also completed. Supplemental floating-product recovery through the use of a bioslurper was initiated. Operation and maintenance (O&M) and long-term management (LTM) continued throughout the year.

In FY04, Wright-Patterson AFB continued system O&M and LTM activities.

In FY05, Wright-Patterson AFB continued O&M and LTM activities. The installation initiated the second 5-year review and a time-critical removal action (TCRA) of contaminated soils at Facility 20055. The Air Force updated its Military Munitions Response Program (MMRP) inventory. No new MMRP sites were identified during the inventory development.

In FY06, Wright-Patterson AFB completed the second 5-year review and optimized O&M and LTM requirements. Wright-Patterson AFB also completed the TCRA of contaminated soils at Facility 20055. The installation completed the quality assurance project plan, which was approved by the regulatory agencies.

**FY07 IRP Progress**

Wright-Patterson AFB accomplished a remedial process optimization (RPO) for LFs 8 and 10, reducing overall monitoring at these sites by 30 percent. The installation began implementing a no further action proposed plan and ROD for soils at Buildings 25 and 59, and AOC 79/95. The Air Force initiated a soil cover system for the remainder of LF 7, and the groundwater monitoring wells abandonment project.

The planned partial soils delisting from the NPL was delayed due to administrative issues.

**FY07 MMRP Progress**

The Air Force initiated a preliminary assessment (PA) at this installation.

**Plan of Action**

Plan of action items for Wright-Patterson Air Force Base are grouped below according to program category.

**IRP**

- Continue O&M and LTM of groundwater and LF operations in FY08.
- Undertake an RPO of the groundwater treatment system in FY08.
- Continue abandoning selected groundwater monitoring wells in FY08.
- Prepare documentation of partial soils delisting from NPL in FY09.

**MMRP**

- Complete PA in FY08.

<b>FFID:</b>	MI557002427800	<b>Est. CTC (Comp Year):</b>	\$ 16.5 million (FY 2045)
<b>Size:</b>	4,627 acres	<b>IRP Sites (Final RIP/RC):</b>	62 (FY2009)
<b>Mission:</b>	Supported fighter, bomber, and cargo aircraft operations	<b>MMRP Sites (Final RIP/RC):</b>	9 (FY2008)
<b>HRS Score:</b>	50.00; proposed for NPL in January 1994	<b>Five-Year Review Status:</b>	Completed and planned
<b>IAG Status:</b>	None		
<b>Contaminants:</b>	Spent solvents, UXO, VOCs, SVOCs, metals, POLs		
<b>Media Affected:</b>	Groundwater, Surface Water, Soil		
<b>Funding to Date:</b>	\$ 58.2 million		



Oscoda, Michigan

## Progress To Date

The mission of Wurtsmith Air Force Base (AFB) was to conduct tactical fighter and bomber training. In July 1991, the BRAC Commission recommended closure of Wurtsmith AFB, and the installation closed in June 1993. EPA proposed the installation for the NPL in January 1994. Sites at the installation include a waste solvent underground storage tank (UST), bulk storage areas for petroleum/oil/lubricants (POLs), aboveground storage tanks, fire training areas, landfills, and an aircraft crash site. Volatile organic compounds (VOCs) at the installation include trichloroethylene (TCE), dichloroethene, vinyl chloride, benzene, toluene, ethyl benzene, and xylenes, all of which primarily affect groundwater. A Restoration Advisory Board (RAB) was established in FY94. To address cleanup efforts, a BRAC cleanup plan was developed. The installation completed the first 5-year review in FY04.

Environmental studies identified Installation Restoration Program (IRP) and Military Munitions Response Program (MMRP) sites at Wurtsmith AFB. The cleanup progress at Wurtsmith AFB for FY03 through FY06 is detailed below.

In FY03, the installation completed remedial investigations (RIs) at several sites to verify the adequacy of implemented remedies. The investigations concluded that plume contaminants were being successfully captured and indicated the need for additional monitoring wells to monitor a surface water body. The Air Force completed an addendum to the basewide remedial action (RA) plan for five sites. Construction of the RA system at Spill Site (SS) 057 was completed, and a draft operating properly and successfully document for SS 005 received concurrence contingent upon incorporating EPA comments.

In FY04, the Air Force completed the first 5-year review and carried out a screening for residual mercury vapors and radioactive materials. A remedial process optimization (RPO) study was conducted for three pump-and-treat systems, and a short-term RPO recommendation for a rebound study at the soil vapor extraction system at Site FT 002 was implemented. The installation removed a previously unknown 300-gallon UST. The installation created a project to fill data gaps at Landfills (LFs) 030 and 031 and issued a request for proposal. Site ST 069 attained the State's cleanup action levels. The Air Force

also conducted an inventory of MMRP sites. MMRP sites were identified at this installation. The RAB met and was presented with the findings of the 5-year review and a description of the cleanup status at various sites.

In FY05, RI fieldwork at SS 072 was completed, and the draft RI report was prepared. The Air Force began evaluating requirements at identified MMRP sites.

In FY06, the Air Force completed a site assessment for the UST at Building 5002 and fieldwork at LFs 030 and 031 to provide additional information to the Michigan Department of Environmental Quality (MDEQ) on the remedy. The Air Force also submitted a risk assessment to the MDEQ to modify the allowable discharge of perchloroethylene (PCE) to the wetland. An archive search report was completed to identify and evaluate all MMRP sites and determine necessary follow-on actions. Five additional MMRP sites were identified: Fire-In Butt, Skeet Range (south), Skeet Range (west), Grenade Range, and explosive ordnance disposal (north).

## FY07 IRP Progress

The Air Force completed decision documents (DDs) for STs 068, 069, and 071, and an investigation at OT 024 to delineate a PCE plume and clear a 52-acre parcel for transfer. Investigations were performed at LFs 030 and 031, which cleared a 17-acre parcel for transfer. The Air Force resolved the RCRA cap issue at LFs 030 and 031.

Regulatory issues with surface water discharge delayed the feasibility studies (FSs) for SS 072 and allowable PCE discharge. Water effects ratio and use attainability studies for LF 027 were discontinued due to technical issues. Technical issues also delayed the DD for LF 027; remedy for LFs 030 and 031; remedial design (RD)/RA for SS 072; and DDs for FT 002 and SS 071.

## FY07 MMRP Progress

Wurtsmith AFB completed a site inspection (SI) at the Fire-In Butt with a no further action (NFA) recommendation. The Air Force completed SI work plans for four other sites and completed munitions explosives of concern clearance for the North Explosive Ordnance Disposal range. Land use controls

(LUCs) were placed on land transfers for two MMRP sites, the Bombing/Strafing Range and the Weapons Storage Area.

## Plan of Action

Plan of action items for Wurtsmith Air Force Base are grouped below according to program category.

### IRP

- Complete RD/RA at SS 072 in FY08.
- Complete FSs for SS 072 and allowable PCE discharge in FY08.
- Complete remedy and DDs for LFs 030 and 031 in FY08.
- Complete explanation of significant differences for OT 24 DD in FY08.
- Complete qualitative risk assessment and DD for LF 027 in FY08.
- Complete investigation, DD, and RD/RA for Site FT 002 in FY08-FY09.

### MMRP

- Complete SI and anticipated NFA documents at four MMRP sites in FY08.
- Implement LUCs at applicable sites in FY08-FY09.

**FFID:** VA317002417000  
**Size:** 10,624 acres  
**Mission:** Provide ordnance technical support and related services; provide maintenance, modifications, production, loading, off-loading, and storage for the Atlantic Fleet  
**HRS Score:** 50.00; placed on NPL in October 1992  
**IAG Status:** FFA signed in September 1994

**Contaminants:** Acids, asbestos, explosives, cadmium, zinc, lead, mercury, PAHs, VOCs, paint thinners, solvents, PCBs, waste oils, nickel, varnishes, SVOCs, metals, propellants, explosives  
**Media Affected:** Groundwater, Surface Water, Sediment, Soil  
**Funding to Date:** \$ 53.5 million  
**Est. CTC (Comp Year):** \$ 18.7 million (FY 2022)  
**IRP Sites (Final RIP/RC):** 48 (FY2011)  
**MMRP Sites (Final RIP/RC):** 1 (FY2015)  
**Five-Year Review Status:** Completed and planned



Yorktown, Virginia

**Progress To Date**

Yorktown Naval Weapons Station (NWS) provides ordnance technical support and related services to the Atlantic Fleet. EPA placed the installation on the NPL in October 1992, primarily because of six sites that are hydrologically connected to the Chesapeake Bay. A federal facility agreement (FFA) was signed in October 1992. In 2005, the BRAC Commission recommended Yorktown NWS for realignment. Contaminants include explosive nitramine compounds and volatile organic compounds (VOCs) that affect groundwater, surface water, and sediment. A technical review committee, formed in FY91, was converted to a Restoration Advisory Board in FY95. In FY02, the installation updated the community relations plan and completed a 5-year review.

To date, Yorktown NWS has completed 16 Records of Decision (RODs). In FY02, the Navy completed an inventory of all Military Munitions Response Program (MMRP) sites. The cleanup progress at Yorktown NWS for FY03 through FY06 is detailed below.

In FY03, the installation continued remedial action (RA) efforts at Site 6 with Phase V. The installation completed an RA at Site 4 and a removal action at Site 23. Groundwater monitoring at all applicable sites continued. The remedial investigation (RI) for groundwater Operable Unit (OU) 1 continued. The installation signed the final RODs for two sites. A preliminary assessment (PA) was initiated for Unexploded Ordnance 000001 (NWS Small Arms Range).

In FY04, the installation continued the Site 6 RA and finalized a site screening area (SSA) report for 10 SSAs. In addition, the installation completed a draft RI for Sites 27, 28, 29, and 30. Yorktown NWS also initiated an update of master project plans. The installation completed final Round II RIs for Sites 2, 8, 18, and SSA 14.

In FY05, Yorktown NWS finalized a No Further Action ROD for soil at Site 4 and a No Action (NA) ROD for Site 18. Site 18 is complete for all media. The installation finalized work plans for OU 1 and initiated a Round I RI. The installation completed the draft final long-term monitoring report for Site 12 and work plans for investigation of mercury contamination in Ballard Creek downstream of Site 12. The installation finalized the RI

for Sites 27, 28, 29, and 30. The Site 6 RA continued. The installation finalized master project plans.

In FY06, Yorktown NWS completed a NA ROD for Site 27. In addition, the installation completed long-term monitoring for Sites 1, 3, and 7. The installation initiated a baseline ecological risk assessment (BERA) for the wetlands downgradient of Site 12. The installation completed the PA and initiated the site inspection (SI) for the Morale, Welfare, and Recreation (MWR) Skeet Range.

**FY07 IRP Progress**

Yorktown NWS completed Round I RI, and initiated Round II RI for groundwater OU 1. The installation completed an engineering evaluation and cost analysis for Site 30. The Navy initiated the second 5-year review. The cost of completing environmental restoration has changed significantly due to technical issues.

Administrative issues delayed completing the NA ROD for groundwater at Sites 11 and 17.

**FY07 MMRP Progress**

Yorktown NWS completed the field investigation for closed MWR Skeet Range and initiated the SI report.

Administrative issues delayed completing the SI report.

**Plan of Action**

Plan of action items for Yorktown Naval Weapons Station are grouped below according to program category.

**IRP**

- Complete removal action at Site 30 in FY08.
- Complete Round II RI for groundwater OU 1 in FY08.
- Initiate NA ROD for groundwater at Sites 11 and 17 in FY08.
- Complete RI and BERA for wetlands downgradient of Site 12 in FY08.
- Complete baseline BERA for SSA 25 in FY08-FY09.

**MMRP**

- Complete SI report for closed MWR Skeet Range in FY08-FY09.

<b>FFID:</b>	AZ917302449300	<b>Funding to Date:</b>	\$ 50.8 million
<b>Size:</b>	4,741 acres	<b>Est. CTC (Comp Year):</b>	\$ 13.9 million (FY 2022)
<b>Mission:</b>	Support tactical aircrew combat training for Pacific and Atlantic Fleet Marine Corps Forces	<b>IRP Sites (Final RIP/RC):</b>	25 (FY2001)
<b>HRS Score:</b>	32.24; placed on NPL in February 1990	<b>MMRP Sites (Final RIP/RC):</b>	7 (FY2017)
<b>IAG Status:</b>	FFA signed in January 1992	<b>Five-Year Review Status:</b>	Completed
<b>Contaminants:</b>	Petroleum hydrocarbons, SVOCs, trihalomethanes, VOCs, metals, explosives, propellants, JP-5		
<b>Media Affected:</b>	Groundwater and Soil		



Yuma, Arizona

**Progress To Date**

The Yuma Marine Corps Air Station (MCAS) supports tactical aircrew combat training for Pacific and Atlantic Fleet Marine Corps Forces. Initial investigations conducted at the installation identified 20 CERCLA sites and 5 underground storage tank (UST) sites. Site types include landfills, sewage lagoons, liquid waste disposal areas, and ordnance and low-level radioactive material disposal sites. The installation was placed on the NPL in February 1990 and signed a federal facility agreement (FFA) in January 1992. In 2005, the BRAC Commission recommended Yuma MCAS for realignment. The installation completed a 5-year review for Operable Unit (OU) 2 in FY03 and updated it in FY04. The installation also completed a 5-year review for OU 1 in FY04.

Installation Restoration Program (IRP) and Military Munitions Response Program (MMRP) sites have been identified at Yuma MCAS. The installation signed Records of Decision for 25 IRP sites in the late 1990s. Fifteen of the 18 soil IRP sites have received clean closure and the remaining 3 soil sites have their remedies in place. Five UST IRP sites have received clean closure. One groundwater site (OU 1) is made up of four chlorinated solvent plumes (Areas 1, 2, 3, and 6) and two fuel plumes (4, 5, and 5a). OU 1 Plumes 4, 5, 5a, and 6 have been clean closed. In FY02, the installation completed an inventory of all MMRP sites. The cleanup progress at Yuma MCAS for FY03 through FY06 is detailed below.

In FY03, Yuma MCAS completed and finalized the first 5-year review for OU 2. The installation completed optimization of one of the existing remedial action operations (RA-O) systems at Plume Area 1. The installation met remediation goals for the other RA-O system at the leading edge of Plume Area (LEPA) 1. In addition, the installation continued operation and maintenance (O&M) at one groundwater remedial system at OU 1. The installation also continued long-term management (LTM) at Areas 2, 3, and 6 of OU 1 under monitored natural attenuation and the applicable land use controls and institutional controls.

In FY04, Yuma MCAS completed and finalized the first 5-year review for OU 1 and updated the OU 2 5-year review. The installation received Plume Areas 5a and 6 site closure. The installation completed and finalized the groundwater flow and

transport model. In addition, the installation continued O&M at one groundwater remedial system at OU 1. The installation also continued LTM of Areas 1, 2, and 3 at OU 1. One RA-O system located in the LEPA was in temporary shutdown status.

In FY05, the installation abandoned monitoring wells at Plume Areas 5a and 6. The Navy requested permanent shutdown of RA-O system located at the LEPA and site closure at Area 2. The installation continued O&M at one groundwater remedial system at OU 1, and continued LTM at Areas 1, 2, and 3. The installation investigated and found no significant contamination at Plume Area 3.

In FY06, Yuma MCAS requested and received site closures at Plume Areas 2 and 3. The Navy requested permanent shutdown of RA-O system located at the LEPA, and shutdown was approved by EPA. The installation reduced LTM from quarterly to semi-annually, and reduced the number of monitoring wells by 50 percent. The installation also continued O&M at one groundwater remedial system at OU 1, and continued LTM at Plume Area 1. The installation began work plans for MMRP site inspections (SIs).

**FY07 IRP Progress**

Yuma MCAS continued LTM at Area 1, and continued abandoning well monitoring in the LEPA of Area 1. The Navy abandoned monitoring wells at Areas 2 and 3. The installation shutdown the air sampling/soil vapor extraction (AS/SVE) system, but continued to maintain the Hot Spot AS/SVE system in temporary shutdown mode. The Navy performed groundwater sampling as detailed in the LTM work plan.

**FY07 MMRP Progress**

Yuma MCAS applied the Munitions Response Site Prioritization Protocol at each MMRP site. The installation began field work for SIs at MMRP sites.

**Plan of Action**

Plan of action items for Yuma Marine Corps Air Station are grouped below according to program category.

**IRP**

- Conduct 5-year review in FY08.
- Continue to abandon groundwater monitoring wells in FY08.
- Continue to evaluate the groundwater monitoring data for closeout candidacy in FY08-FY09.
- Continue groundwater monitoring and reporting in accordance with the LTM work plan in FY08-FY09.
- Prepare well abandonment report for the LEPA in FY09.

**MMRP**

- Develop, review, and obtain approve for the SI work plan in FY08.
- Implement SIs at all MMRP sites in FY08.
- Identify sites that require no further action and refine site characterization information in SI report in FY08.
- Implement SI recommendations in FY09.
- Continue to inform interested parties of ongoing MMRP actions FY08-FY09.